The Builder.

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AMONGST the artisans of England are a large number of singularly intelligent, shrewd, and sensible men,—much larger than is supposed by the majority of those who, by their position, are removed from contact with them: men worthy of respect, and deserving the greatest consideration. Many of the multitudinous essays by working men, On the Sabbath, which were called forth not long ago by offered premiums, astonished those who were appointed to decide on their relative merits, by the closeness of reasoning, ability, and wisdom which they displayed.

Within a recent period there have been in our own pages more than one communication penned by hands made heavy and intractable by the mallet, yet full of sound sense, and shewing enlarged and comprehensive views. These are not men to be classed with the vulgar and uncared for. "These are not vulgar people," says Dante, "merely because they live in small cottages, lowly places: but those are vulgar who, by their thoughts and deeds, strive to shut out any view of beauty." There are vulgar rich men as well as vulgar poor men. Being poor is not of itself a disqualification for being a gentleman. To be a gentleman is to be elevated above others in sentiment rather than situation. And the poor man with an enlarged and pure mind may be happier, too, than his richer neighbour without this elevation. Let the former only look at nature with an enlightened mind,—"a mind which can see and adore the Creator in his works, can consider them as demonstrations of his power, his wisdom, his goodness, and his truth; this man is greater, as well as happier, in his poverty, than the other in his riches. The one is but little higher than the beast, the other but a little lower than an angel."*

Our simple object, however, is to say, in plain words, that the honest, upright, intelligent artisan deserves the consideration of all who have it in their power to improve or ameliorate his condition. And we are impelled to this by the recent receipt of several saddening letters from men of this class, overcome by hope deferred. These are records of suffering; can we wonder that they are interspersed with complaints and repinings? We may say to the writers of them, with Feltham, that "We do not wisely when we vent complaint and censure. Human nature is more sensible of smart in suffering than of pleasure in rejoicing, and the present endurances easily take up our thoughts. We cry out for a little pain, when we do but smile for a great deal of contentment."

But their complaints are too serious,—the grounds for them too apparent, for the reproach conveyed in this to apply. They have laboured all their lives; they are willing still to labour, but they can find no employer.

The story of some amongst them who *have* work is sad enough: take the following, and let it not provoke derision, but desire to aid:—

"I am a journeyman carpenter," says one, "thirty-eight years of age, and it is my firm conviction that I have worked physically upwards of ten hours on an average every day of my life since I was twelve years old, and worked hard too. From twelve to fifteen I laboured for an existence with a donkey and water-butt on a carriage, and after a while with a horse-butt, loading and drawing water from the river Lea, hawking it about the streets in a suburban village, and selling of it for a penny a turn,—a turn being the quantity of four common pails, which I used to carry in large ones with a pair of yokes, and empty into the butt or vessel of those that bought it. At fifteen I went to the trade; at eighteen my master broke. I turned journeyman at twenty, married ["There's the rub!"], and three months afterwards fell out of work, and was out six months. I have been the father of ten children, five alive and five dead. I have been obliged to work (or leave the employ) Sundays, Good Fridays, and Christmas days, whilst my employers have taken their carriage and gone to church, and all day and the major part of the night for weeks consecutively. As I lived upwards of two miles from the place, I have slept as I walked home, and once ran against a wall in my sleep. I so deranged the system by excessive labour, that it produced a deception of the vision, so that all manner of hideous figures would appear to dance or walk before me, and have appeared to be so close to me sometimes, that I have put my hand out to touch them. It has left a speck in each eye up to the present time, as a mark of the effect of excessive labour on the organ of vision. I have ever been abstemious in the necessaries of life, and never indulged in the luxuries; yet with all my working and abstemiousness I am still miserably poor, and I am not an exception to my class."

Truly, as one of the same grade said in a letter to the *Times* a few days ago,—

"If the possessors of wealth could see beneath the surface of a poor man's life, or obtain a secret view of his home, they would do their utmost to alleviate the condition of respectable but poor mechanics."

Words to men in want may be called wind; nevertheless, there may be comfort in the reminder that there is still good in their struggles. Hear what the benevolent Channing says:—

"I have faith in labour, and I see the goodness of God in placing us in a world where labour alone can keep us alive. I would not change, if I could, our subjection to physical laws, our exposure to hunger and cold, and the necessity of constant conflicts with the material world. I would not, if I could, so temper the elements that they should infuse into us only grateful sensations, that they should make vegetation so exuberant as to anticipate every want, and the mineral so ductile as to offer no resistance to our strength and skill. Such a world would make a contemptible race. *Man owes his growth, his energy, chiefly to that striving of the will, that conflict with difficulty, which we call effort.* Easy, pleasant work does not make robust minds, does not give men such a consciousness of their powers, does not train to *endurance*, to perseverance, to steady force of will, that force without which all other acquisitions avail nothing."

And then listen to what Charles Mackay, the poet of the people, sings of this same endurance:—

"Were the lonely acorn never bound
In the rude, cold grasp of the rotting ground;
Did the frigid frost never harden up
The mould above its bursting cup:
Were it never soaked in the rain and hail,
Or chilled by the breath of the wintry gale,
It would not sprout in the sunshine free,
Or give the promise of a tree;
* * * *
Or stand in the woods among its peers,
Fed by the dews of a thousand years.
* * * *
So thou, O man of a noble soul,
Starting in view of a glorious goal,
Wert thou never exposed to the blasts forlorn—
The storms of sorrow—the sleets of scorn?
Wert thou never refined in pitiless fire,
From the dross of thy sloth and mean desire;
Wert thou never taught to feel and know
That the truest love has its roots in woe,
Thou would'st never unriddle the complex plan,
Or reach half way to the perfect man;
Thou would'st never attain the tranquil height
Where wisdom purifies the sight,
And God unfolds to the humblest gaze
The bliss and beauty of His ways."

One of the correspondents to whom we are addressing these few recollections of what others have said rather than thoughts of our own, inquires as to the advisability of *emigrating to Australia*, no prospect opening to him here. We would say, obtain proper advice and guidance, and go by all means. If you are able and willing to labour, you will not fail to find there a fair field for your exertions.* Emigration generally we regard as a cure for many of our social evils. Admit that under better arrangements England could maintain in comfort a much larger number of persons than is now the case, still it is certain that the alterations necessary must be the work of time, and those who find it impossible to obtain remunerative employment here will do well not to wait, but turn their attention to other quarters, and seek "fresh lands and pastures new."

Pent in wynds and closes narrow,
Breathing pestilential air,
Crush'd beneath oppression's harrow,
Faint with famine, bowed with care,—
Gaunt affliction's sons and daughters!
Why so slow to hear the call
Which The Voice upon the waters
Preaches solemnly to all?

Hark! old Ocean's tongue of thunder
Hoarsely calling bids you speed
To the shores he held asunder
Only for these times of need;
Now, upon his friendly surges
Ever ever roaring, Come,
All the sons of hope he urges
To a new, a richer Home!

England and her seagirt sisters
Pine for want in seeming wealth;
Though the gaudy surface glisters,
This is not the hue of health;
O! the honest labour trying
Vainly here to earn its bread,—
O! the willing workers dying,
Unemployed, untaught, unfed!

* * * *

* Jones of Nayland.

* Dr. Laing gives the following as an example of what may be done by a labouring man in Australia. John M'Millan, a native of Skipness, in the Highlands of Scotland, had, previous to the year 1840 (when he obtained a free passage for himself and family, as bounty emigrants to Port Philip) been for five or six years a common porter on the streets of Greenock. He had only from five to ten shillings altogether when he arrived at Melbourne, and that sum he had received for some petty services on board; but his wife was a stout active Highland woman, and he had nine sons and one daughter, of various ages, from infancy to twenty years. He had no trade or handicraft, but as labour of all kind was in great demand at the time, he obtained 2*l.* a-week as a stonemason's labourer, and those of his sons who were fit for service of any kind were hired out under various masters. With the first savings of the family he bought a cow, which cost 12*l.*; and another and another were added from time to time, till his herd amounted—increase and purchases included—to 400 head. In the meantime he had purchased, from the earnings of the family (from a gentleman who had bought 5,000 acres of land, at 1*l.* per acre, which he selected within a few miles of Melbourne, in the hope of making a fortune from its rise in value), forty-two acres of ground, at 7*l.* an acre, at a place called Brighton, on the sea-coast, within the gulf, about 6 miles from the town. The whole of this land he had cleared, divided into paddocks with rail fences, and brought into a high state of cultivation; and as land of the same description immediately adjoining had cost 5*l.* an acre for clearing—for it was heavily timbered—the real price of it may be considered as having been 12*l.* an acre. The soil appeared to be light and sandy, but it bore crops of wheat from thirty to forty bushels an acre. M'Millan had rented a small farm adjoining his own during the year 1845, and from both he had reaped from 700 to 800 bushels of wheat, and collected sixty tons of cotton hay; and he considered himself worth altogether 1,100*l.*

England's frank and sturdy bearing,
Scotland's judgment, true and tried,
Erin's energetic daring,
And the Welchman's honest pride,—
Send these forth, and tame the savage,
Sow his realm with British homes,
Where till now wild monsters ravage,
Or the wilder Bushman roams!

Let, as erst in Magna Græcia,
Nobles, sages, join the ranks;
And for vacant Austral-Asia
Leave for good these swarming banks;
Not as Exiled,—but with honour!
Told in tale, and sung in song,—
With the Queen,—GOD's blessing on her!
Speeding this good work along!

* * * *

Haste, then, all ye better natures,
Help in what must bless the World!
See, those cellar-crowded creatures
To despair's own dungeon hurl'd,—
Send—or lead them o'er the waters
To the genial shores, that give
Britain's sacred sons and daughters
Man's great privilege—to Live.

There,—for grudged and scanty wages,
Grinding rent and parish tax,—
In the wood, unheard for ages,
Rings the cheerful freeman's axe;
Whilst in yonder cozy clearing,
Home, sweet Home, rejoices life,
Full of thoughts and things endearing,
Merry babes and rosy wife!

There,—instead of festering alleys,
Noisome dirt, and gnawing dearth,—
Sunny hills and smiling valleys
Wait to yield the wealth of Earth!
All She asks is—human labour,
Healthy in the open air;
All She gives is—every neighbour
Wealthy, hale, and happy There!*

With *energy* and determination much may be done, let a man's position be what it may; without these, nothing. The possession or want of energy makes much of the difference between the weak and the powerful. Let some of our friends think over this: have a fixed purpose, and pursue it steadily.

And to those of our readers who have the direction of extensive works, to the Government especially, and important corporations, we would say with great earnestness, Pause before you determine on discontinuing operations: if money must be saved, save it in other quarters, but do not add to the enormous amount of distress already existing, by discharging workmen.

If what we have here written prove of little value, it has, at least, a good intention and a pure purpose, which must serve as our excuse.

GEORGE GODWIN.

ON THE VARIOUS QUALITIES OF CAEN STONE.†

IT seems to be the general opinion of the proprietors of quarries and their quarrymen, as well as of the masons and builders at Caen, that the most durable stone is obtained from the uppermost of the six workable beds, or from those beds which are nearest to the top, and freest from the little pebbly concretions which abound in the ceiling bed; and also that the lowest beds are softer, and thereby more readily disintegrated by exposure to the weather. I feel disposed to pay attention to this statement, because it corresponds with practical observations and opinions entertained by most people who are well acquainted with quarrying and working stone of a similar mineralogical character in our own country. The top beds of Portland, Bath, Ketton, and other oolitic limestones, are all the most durable; whereas the undermost strata in the same quarries are well known to moulder away, if exposed to moisture and the usual atmospheric influences.

It is with all the varieties of Caen stone as with most other stones, that the goodness or power to resist decay depends chiefly upon the quantity and quality of the cementing substance by which the component grains adhere to each other. The cement that unites the grains, the ova, or other loose particles, into a mass, is formed of the same elements as the grains themselves, but more crystalline; it is, in fact, the decomposition of some of the superincumbent mass, saturating and crystallizing throughout the beds beneath. Water, even in its simplest state, may be considered to act as a solvent to most things; but when it contains acid, its power of dissolving calcareous substances is considerably augmented. Many waters are impregnated with carbonic acid, obtained partly from the atmosphere and frequently from subterranean sources. If they contain a superabundance of carbonic acid, they will rapidly decompose limestone, and carry the atoms thus sustained in solution until a certain quantity of the acid, in a gaseous state, has evaporated, when the atoms of limestone will again solidify in crystals, and perhaps assume a totally different character. If this ingenious process of nature be carried on for a great length of time, over a considerable thickness of loose calcareous matter, the probability is, that the water thus charged with lime and carbonic acid will saturate the more porous parts, and thus ultimately form a well-cemented and compact limestone, of what was originally a congeries of loose ova, or grains.

Under these, or similar circumstances, it is but reasonable to suppose that in the deep recesses of the earth, where the extreme changes of surface-temperature, and vegetation, and the influences which produce organization and life, cease to act,—there, even there, a creative power still pursues its never-ending task of giving new forms to matter, and that, the longer a slightly-connected or porous limestone remains buried beneath a certain quantity of calcareous material, the more solid and indurated it will become. And if this stone be ultimately extracted, and used for ornamental architecture, it will be more durable than that which is of recent formation.

Exactly the converse of this process takes place after a stone is removed from its natural position in the quarry, and exposed to the numerous vicissitudes of climate, temperature, moisture, and other atmospheric changes which are constantly in operation. From the moment of its removal, destruction commences, and continues incessantly. In some instances, the action is far more rapid than in others; but whether the ruin be effected in ten years, or ten thousand, is only a question of time,—the same influence is for ever at work to bring about the disintegration, decay, and final dissolution of all things.

Of all the causes of decay in stone, none is more destructive than variations of temperature: the vicissitudes of heat and cold, dryness and moisture, frequently alternating, are more ruinous to the carved parts of a building than either of these extremes constantly operating. However slight the additional heat may be to which a body is subjected, it will expand under its influence, and contract when the temperature is lowered. The thermometer will probably vary 100 degrees from the severe frost of a winter night to the direct rays of an afternoon summer sun, which never shines upon the north or north east sides of a building, except very obliquely at rising and setting; but the south and west fronts have the same degree of cold as the north and east during the night, with the additional warmth of meridian splendour daily. Such extremes must tend to loosen the component parts, and thereby separate many small fragments from the surface of stones, especially if the mass is made up of different substances, in which case some will expand and contract more, in proportion to their size and density, than others. The test of time proves this to be correct, for in all cases the greatest amount of disintegration has taken place, where the inequalities of temperature are greatest.

It is pretty evident, from both theory and practice, that there is a considerable difference between the upper and lower beds. The next question is, did the architects and builders of the numerous old edifices in Caen and its neighbourhood generally, use only the top beds in the construction of their elaborate architectural works; or did they frequently, if not on all occasions, apply the stone from one particular quarry or district, to the exterior of their buildings; and a softer, or more expeditiously working material to the interior, in situations protected from the weather.

If we examine the granulated texture of a fresh-broken fracture, from an old building, appearances are certainly in favour of the stone having been procured from some of the uppermost beds; or more probably, from a totally different quarry, for the stone is much harder, and of a lighter colour, than is to be found in any of the Allemagne quarries. But as there is no very evident distinction, no fossils or organic remains, peculiar to one bed more than another, no certain conclusion can be arrived at, from the most attentive examination in this manner. After the lapse of several centuries, the only mode of procedure is to draw an inference from circumstantial evidence.

The road which passes along the entrances to most of the quarries (about 35 in number), is on a level above the lower beds, or in other words, the road is formed upon those beds which are considered unfit for external works; consequently, whenever any of these subterranean quarries were opened or began to be worked, the stone first procured from them must have been taken from those beds which are now considered to be most durable; and as there is a regular descent, of a very slight inclination, from the road to the interior, nearly approaching to the extreme end of the quarries, it is quite certain that an enormous quantity of stone, of the best quality to be obtained in that particular district, must have been extracted, probably during several centuries, before they got far enough in, and deep enough down, to make use of the lower beds.

In all countries, during feudal times, the hills or protuberances were generally occupied by the barons, either for the beauty of the prospect, or more probably on account of their commanding situation: thus, we find the castle at Caen, originally a fortress of considerable strength, surrounded by strong, lofty walls, and elevated on a rock considerably higher than any other ground in the neighbourhood. The inspection of these fortifications, and the rock on which they are built, leads us to presume that the same stone which had been removed to form a moat was applied to construct the wall,—thus answering two purposes, and thereby rendering the approach of a hostile party more difficult. Buildings for protection against an enemy, generally precede those for the service of religion; and by finding a superabundance of stone, in constructing a fort upon the crown of a rock, they would naturally be induced to open a quarry, close at hand, to supply materials for the erection of churches and other public edifices,—and accordingly we find the remains of many extensive quarries in different places near the ancient castle.

If we observe the distance of the Allemagne quarries, and the proximity of those by the castle, to many of the old buildings, including the churches of St. Etienne and the Holy Trinity, it will require no great stretch of imagination to suppose that the architects or builders of these venerable structures availed themselves of good materials within a short distance, in preference to fetching stone of a doubtful quality from three or four times the distance; and this opinion is strengthened by carefully examining specimens taken from the exterior of some of the celebrated churches at Caen. According to tradition in the neighbourhood, no stone has been extracted from these ancient quarries for several hundred years: it is supposed they were deserted soon after those at Allemagne were discovered and became in more general use,—perhaps from fear of the town being endangered by undermining, or because the more recent quarries were found to produce a softer and more easily-working material.

Between the beds of Caen stone, we sometimes find a thin stratum of highly ferruginous loam, especially between the lower beds; and this clayey oxide of iron may be traced, to a slight extent, throughout the stone of all the beds, particularly in that of the Franc Banc, giving to it a deeper colour, somewhat of a rusty tint: this circumstance may very likely be one of the causes why that bed is more perishable than the upper ones.

It is quite surprising to notice the great difference of hardness in the same specimen of Caen stone when thoroughly saturated with

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* We are indebted for these lines to Mr. Martin Tupper, the author of "Proverbial Philosophy," whose pen has before this enriched our pages.

† See page 26 *ante*.

water, and when perfectly dry. In one case it may be almost abraded with the naked finger, and the nail will readily make an indent on the surface; whereas the very same piece of stone, when completely dried, is comparatively so indurated, that it cannot be effaced without a sharp instrument, or some more violent effort. Independent of the gradual decomposition produced by the solvent power of water, a stone so absorbent and so softened by moisture, as it must frequently be, in a climate where wind and rain continue for days and weeks without ceasing,—such stone must be liable to be damaged by mechanical violence in a thousand ways that would have no effect upon a harder material.

Much stress is generally laid upon Caen stone being "well seasoned:" although this caution is important to a certain extent, it is usually overrated. All kinds of stone while in the rock, or when recently quarried, are more thoroughly saturated with moisture than can ever be accomplished after they have been once allowed to get dry. If the stone be remarkably soft, it is advisable not to let it dry too fast, after it has been taken from the quarry, for fear of its cracking, in consequence of the moisture being removed from the outside before that in the interior of the block can have had time to evaporate; hence, while the central part remains of its original size, and extremely damp, the surface will dry and shrink, thereby causing many unobserved cracks, the effect of which will be evident in the following winter. The Caen stone merchants take no other care of the blocks after they are exposed for sale, or shipment, on the quay, than to cover them with matting during frosty weather. In addition to this, I would recommend placing them under an open shed, where they might have a free current of air, protection from rain, and be shaded from the sun, which might otherwise cause them to dry too rapidly on the surface.

The cost of Caen stone buildings, compared with works constructed of materials produced in this country, will, in a great degree, depend upon locality and other circumstances. At this time, Caen stone may be delivered on a wharf in London for about two-thirds the price of Portland; and, for labour alone, the expense is certainly not more than half that upon Portland stone, or of that which is now being used at the New Houses of Parliament. Although elaborate architectural works may be constructed in that beautiful material, for a comparatively small sum, I wish it to be clearly understood that the material now generally known in the markets as Caen stone differs, in many essential particulars, from the stone which forms the exterior of the venerable edifices which have adorned the city of Caen from the period of William the Conqueror until this time. Therefore it is too much to expect that the palace of our Sovereign, the mansions of the wealthy, and the palatial looking club-houses, which have recently been constructed with Caen stone in the metropolis of England, should endure for seven or eight centuries, with as little appearance of decay as is at this time observable on the sacred structures in the vicinity of the quarries. However, if good judgment be exercised in selection, it is probable that the buildings now erecting with Caen stone in this country may continue in a fair state of preservation for at least one or two centuries.

In all cases, before commencing a work of magnitude or importance, I strongly recommend a visit to the quarries, and an attentive examination of old buildings in the vicinity, and, if possible, an interview with the proprietor or principal quarryman.

Before I describe and comment upon the tables and experiments,* I will briefly say a few words on the mode of investigating or searching after these unknown truths.

To examine the granular aggregation of a stone, with a view to its fitness for exposure to the sun, air, moisture, &c., it should be washed thoroughly clean, to get rid of all dust or foreign matter from the surface; and observations should particularly be made on surfaces as large as possible, for they will present more palpable and more numerous distinguishing characteristics than minute ones. All experiments made with little bits of stone, however accurately they may be watched, are but vague approximations, the best of which are likely to lead to erroneous results, owing to the variable nature of the stones upon which the experiments are performed. For example, if you observe the party-coloured appearance of some stones, and the tint of one entire slab compared with another, each slab representing a vertical section of one block of Caen stone, you will perceive by the colour, when half dry, the different qualities of hard and soft stone, each of which will, no doubt, vary considerably in duration. C. H. SMITH.

* To be given next week.

ENFRANCHISEMENT OF LEASEHOLDS.

THE articles on this subject published in THE BUILDER, appear to have attracted considerable attention, and perhaps some remarks as to the utopian objects of the promulgator. The lords of wide urban domains, whose interests (or at least the interests of whose sons, grandsons, or successors in tail) are the subject of revision and change, may cry aloud, "The plan is one of spoliation—it is a socialist doctrine, designed to enrich the many, by confiscating the estates of the few;" whilst a great portion of the community, fearful of approaching any theory which hath the savour of an invasion on property, perhaps recoil from a measure that seems to have that tendency.

But in truth nothing can be more illusory than the prejudice of either party in the present consideration; for its prominent characteristic is, that the enfranchisement of leasehold tenures, carried out on an equitable basis, cannot injure nor reduce the rentals of great proprietors; nor can it fail to benefit society at large by the creation of an extensive class of freeholders in houses, and at the same time put a stop to that concentration of fixed capital in oligarchic families, which prejudices the freedom of the electoral voice, harasses the relations of the civic family of mankind, bereaves the heirs of local residents of their houses and stations, and hath for its inevitable issue, the building up of auriferous principalities in the heart of England.

It is far from our design to interfere with or reduce the *head* rents reserved in original leases; or to abate from the independence of families possessing *thousands of houses;* but as in every question of national policy, the scruples of the few must cede to the manifest welfare of the many,—so perhaps in this scheme, the abstract notions of vested interests of the oligarchy of wealth, must ultimately be made to have some regard to the common weal.

The feu rights of lords of manors to copyhold levies of fines, heriots, &c. &c., were equally legitimate privileges, before the legislature thought fit to abrogate these seigniorial dues; the rights of freeholders in the tenure of freehold lands, were as indefeasible, until the national Parliament enacted that in all cases where a line of railway should intersect private property, individual benefit should give way to that of the public, and that such sections of property as fell into the plan of the proposed lines should be valued by sworn juries; and that the amount adjudged as the value thereof should be paid to the possessors on the transfer of such properties to the public company for such purposes.

In framing this Act of Parliament, however, a very discreet reservation was carefully guarded, on behalf of the proprietors of parks (the legislators themselves being ordinarily the tenors), that no park, lawn, &c. &c., should be understood as coming under the provisions of the Act! This was a salvo for the wealthy,—for the veto lay with *them* in all cases of converting private domain lands; and wherever such have been needed to carry out the plans of a railroad company, the most extortionate prices have been exacted and paid to propitiate the repugnance of the resident lord,—in many cases amounts equal to twenty times the fee simple value of the segment appropriated! Here the farmer, the modest yeoman, or town burgess, have to submit to the statutory enactment, whilst the magnate of the park could only be brought out at *his own valuation*.

These are but examples to prove the acknowledgment of the Legislature that private right must cede to public utility and convenience, the right being duly compensated for.

In the matter of enfranchising leasehold tenures, the whole resident community is deeply concerned. If in the metropolis there are 300,000 houses and householders, we may safely infer that 100,000 must be deeply interested in any measure which would tend to the assurance of perpetuity in their abodes—in the houses of their sires and progenitors—in the security that the habitation (in which, in many instances, the independence of their condition has been amassed, and upon which large sums have been disbursed) shall not be forfeited, but transmitted to their children. On the other hand, these 100,000 houses belong to comparatively but few in number of the renter class. Several of the leviathan lords are lessors and proprietors of above *one thousand houses!* and some of five times that number; and the longest lease known on such estates is *ninety-nine*,—but latterly *seventy* and *sixty-one* years have become the usual term on building estates. One estate in the most valuable part of the town has above 2,000 first and second-class houses, 2,000 third-class, and building sites for as many more. One-half of this estate is of new creation, and has seventy years to run, at ground rents averaging two guineas a foot, or 50*l.* a house! On every house of this city of palaces at least 1,000*l.* has been expended by the adventuring builder; so that, on the lapse of seventy years, supposing that no greater sums are disbursed in embellishments or improvements, the startling sum (in fixed property) of 8,000,000*l.* will fall into the hands and disposition of one sole potentate in rents! and this to the exclusion of the short-sighted outlayers of private capital. But this is not half,—turn we to the other moiety of the estate,—of the other 2,000 houses. One-third part were leased ninety years back, one-third sixty, and one-third twenty, at the ground-rents incident to the value of these periods. For the lapsed portion, that is relet at rack rents (generally giving the preference on lease to the lessee or occupier), therefore one-third part has sixty years to run, and the last third portion has thirty years to run.

These statements are in general terms, but not far from the truth. Now for the tenants' interest on these holdings. The rule on this estate is, that no lease shall be renewed until within twenty years of its lapse or expiration. At this period the valuation is made, not by the tenant, nor by a valuation jury, but by the landlord; he estimates the value to the tenant, and lays it on accordingly. The original rent in first-rate tenements may average 50*l.* a-year, the improved rental on a renewed lease, from 250*l.* to 300*l.* a-year. The more money the predecessor or ancestor of the lessee has laid out on the premises, the greater will be the value thereof; and, therefore, the tenant, whose father or grandsire has converted a shop into a mansion, or a mansion into a palace, has to pay over again the improved value, if he wish to retain his ancestral dome.

It is thus, that in the lapse of sixty years, the whole extent of this great town and its suburbs will be divided amongst a few, and remain to be dealt with at their discretion; and of these the westward division will present the paramount feudalisms of Grosvenor and Belgrave, Portland, Portman, Bedford, Fitz-Hardinge, Southampton, Northampton, Arundel, or Norfolk, Sutton, and some other hospodars, pachalics, and principalities; so that the second generation issuing from the present and existent one, inhabiting one half of the metropolis, will be under the proprietory dominion of some dozen Archons or Crœsuses, who, knit together by a community of feelings and interests, must form a fearful *imperium in regno*,—as dangerous to state policy as to civil polity.

To simplify the proposition which, although perhaps novel, has nothing of spoliation, violence, or injustice in it, the following development will sufficiently suffice.

Suppose a tenant of a building plot, 30 feet frontage, in any new locality, held on lease of 80 years at a ground-rent of 20s. a foot, or 30*l.* a year;—if disposed to purchase the perpetuity before he builds, let him serve notices to that effect on the landlord or his agent, and on the surveyor of the district. Within one month after the service of such notice

(according to the desiderated law), a jury should be summoned to assess the amount of increased value for such perpetuity, either at an increased ground-rent, or in amount of purchase-money: at the option of the tenant so proposing. As no building has been erected on the plot, and as the term of surrender to the lord is so remote, a very trifling yearly increased rent would be surcharged on the original rent.

Or, suppose a case where the house and premises had been erected and the interest sold to an occupying tenant, and that ten years had elapsed (the vicinage being generally covered and occupied), then a comparatively larger, but still moderate, though increased amount of rental or purchase would be required.

Next take, for example, a house which may have been built forty years on an original lease of 80 years, which may have changed hands from purchaser to purchaser, and suppose the lease thereof has 40 years to run, at a ground rent of 50*l.* a-year (this is an ordinary case, as many mansions in the first situations have been leased at about 10*s.* a-foot, or say 50*l.* rental).

The same formalities of notice and valuations will follow. As the period of resumption by the landlord is more proximate, and the value of the buildings and locality are more considerable, then a larger award of compensation will be made by the jury; such as perhaps 500*l.* to purchase, or 25*l.* a-year to rent, added to the original head rent of 50*l.* a-year in perpetuity, if the tenant in occupation should be willing to take it at a rental.

In the same manner, the remaining unexpired terms of long leases at head-rents may be calculated, on the principles of justice and equity to both landlord and tenant; but in no case is it contemplated to affect or interfere with leases of houses let at rack-rent for 7, 14, or 21 years (reserving to the tenants the option of surrender at the determination of any seven years); nor would this be of general advantage to the class of occupiers who take houses with a view to short residence, either as standings for business or private residence: nor does equity seem to require in these cases any new modification, as such occupiers seldom outlay their capital on improvements.

The new law of enfranchisement would of course provide for the payment of the jurors (who should be professional men) and of the district surveyor, the charges for whom should be borne by the tenant or person issuing such notices.

The proceedings in this respect might be advantageously assimilated to those of valuations under railroad enactments, which appear to work well, and to give as little dissatisfaction as is possible between, on the one side, extortionate requirements, and parsimony or niggardliness on the other.

As matters now stand, the holders of outrunning leases in valuable localities have no certitude of renewal at any price. The family residence held for 70 years at a rental fair at the time of its origination, and upon which 5 or 10,000*l.* has been sunk, may be denied to the occupier and given to another, or the owner may wish to play the same game over again,—not to accept a premium, but to impose a rack-rent of, say, 300*l.* (an ordinary advance), and the still more onerous imposition of a compulsory clause to rebuild, and to expend 10,000*l.* more, for the benefit of the succeeding heritors on the lapse of 60 years more.

The predicament of an occupier and lessee in some cases is still harder;—having a lease of some 20 years to run at the original head-rent renewed 60 years back; his house has fallen into decay, and is antiquated; requiring to be rebuilt, he proposes for a renewal, but is refused; such proposal is referred to the landlord's own committee of arbitration; but no, the lord has other views as to the house in question.

This is no imaginary case; it is matter of fact. So the unfortunate heritor or occupant of a favourite house is forced to abide in discomfort, if not slow torture and even imminent danger, or to throw up his term into the lap of the [illegible] lord!

His tenement is crazy, he must prop it; the day not [illegible] on its career, he must abide the issue; or if he be like the foolish builder (more foolish than he of the Scripture, for the certain mulct and forfeiture are before him), then he must lose his outlay—for even in case of an ultimate renewal, the sum expended will lay a reduplicated valuation at his door.

Although this thesis does not contemplate the complete purchase of all head rents, that object is far from being unattainable; for an Act of the Legislature might with perfect equity compass such an enfranchisement also, varying the purchase on a scale of unexpired years, from thirty-three years' purchase (the highest price of funds) down to fifteen years, graduated according to the extent of unexpired term. The purchase of the head rent would be as equitable as that of the term in perpetuity, saving the head rent.

Instead of increasing in house property, which may be called the only *fixed property* of the capital, the landlord class would, in the event of large conversion of their rents into money, become great capitalists, and the multitude renting houses must, on the other hand, become freeholders, with fixed local interests; and there can be no question as to the effect of such a change on the population; or that the subdivision of house ownership must have the best influence, whether with respect to their domestic comforts, their fiscal importance, or to the character of the buildings, that must in such case supplant the structures raised to endure but for a season.

The arts, chiefly architecture, have important concern in this subject; the municipal rights of every citizen are wound up in it, as are the interests of the present generation, but most of all, their heirs in the generation to come.

QUONDAM.

ON DILAPIDATIONS.

THIS subject is one that has never received proper consideration from the hands of a large class who are interested and affected by it—"tenants." Men who are daily imposing upon themselves heavy responsibilities, the extent, or the peculiar obligations, and the ultimate result of which they are totally unacquainted with.

Few persons on taking a lease think of raising objections to covenants which are, they are informed, of the usual character; or, if prudent enough to pledge themselves to an agreement of but three years, they fearlessly, and without hesitation, affix their signatures to a clause promising to "uphold, maintain, and sustain," &c., or that which really may turn out an impossibility; for some houses, so to speak, have the elements of destruction and disease upon them from their infancy. Bad brickwork, causing by its humidity damp walls, rots everything: unseasoned timber, that shrinks and twists in all directions, throwing floors out of their level, and making settlements from top to bottom, through which the doors and windows have to be constantly eased and rehung; faulty and imperfect drainage, which becomes constantly choked; the roof acting like a sieve: and this list of ills that modern houses are heir to is no exaggeration; yet many a man, and he, too, who may be esteemed in his own business a prudent man, is induced, from a want of consideration, readily to promise to do and perform all needful and necessary repairs, or at least to leave the house in tenantable repair. It is not a little amusing to observe the tenant's surprise at the end of his tenancy on receiving a notice of dilapidations. What! he exclaims, and leave the house 100 per cent. better than when I took it? This and the various sums of money paid to jobbing tradesmen, all the accounts of whom he can enumerate by heart, constitute the anchor of hope to the poor tenant, when informed, in spite of all the benefits the house has derived from him during his tenancy, that still such and such are dilapidations, and as such he is answerable for their being reinstated. In the present age, remarkable for the number of scantily-constructed houses, with so nice and clean, yet deceitful, an exterior, invitingly waiting for tenants on lease or agreement, it cannot fail to be useful to consider the nature of the obligation that exists between landlord and tenant upon the hire of house property; for as mistakes will happen in the best regulated families, so do the friendship and good understanding that may have existed between landlord and tenant suddenly cease with the termination of the lease. Covenants to repair, when once entered into, are irrevocable; it is, therefore, most important that each party should clearly understand what constitutes repairs or dilapidations; and as to all defects, whether they arise from accident, neglect, or decay, and by which party they are to be made good.

A landlord, on making a claim from his tenant for dilapidations, must shew that they are such as were stipulated for in the lease, as the obligation on the part of the tenant to make good varies, in nearly every case, according to the different covenants of the lease, by which the tenants are bound by more or less stringent clauses, involving greater or less responsibilities.

Mr. Gibbons, in an excellent treatise on this subject, defines dilapidations as the act or default of a person having to use a tenement, to the injury of another having a right to the same tenement, or a tenant's obligation may be considered as depending on the old maxim—"You must not injure another's property, but use it as your own."

It is an imperative act of justice to himself for the future tenant to make a stipulation that, previous to the commencement of his tenancy, the premises shall be surveyed; so that, if then there can be considered any thing unsound or defective on the premises, it may be made good before the agreement is concluded, otherwise the tenant will find that he must make good all, whatever was the state of repair when he took possession of the premises.

Houses held on lease.—In the case of premises being let on lease, a tenant should not be compelled to supply and make good defects that may arise from time and use, because, as the tenant bargained for use, and gives to the owner an equivalent rent, the landlord has a claim only for a restoration of the tenement as injured by the tenant, but has no right to make a claim for the wear to be made good; but then, as the tenant agrees to keep the house in tenantable repair, he is bound to supply all occasional and accidental defects which may expose the premises to premature decay. Accidents happening during his tenancy, if not inevitable, must be made good by the tenant, for it is fair to presume, that had he adopted proper precautions, the accident might have been prevented; therefore, there exists an obligation not to suffer dilapidations, and it is evident that the tenant is equally bound not to do any act that will cause an injury to the tenement.

Voluntary waste means an alteration in the tenement, it being held in law that a lessee cannot change the nature of the thing demised: the act of alteration exceeds the right to use, and infringes on the condition that the landlord shall receive back the premises in the same state and condition as when the lease was granted. It is, therefore, essential that a tenant contemplating an alteration or improvement should receive proper permission and authority from the landlord.

Permissive waste consists of a neglect on the part of a tenant to supply the repairs required by time and use, and also a neglect to make good occasional and accidental dilapidations. Houses and outbuildings are the principal subject of dilapidations, but the law extends to trees, land, changing the course of industry, &c.; but the chief subject is buildings. These, though subject to decay in the progress of time, are capable of having the defective or decayed parts made good, and are therefore subject to both permissive and voluntary waste.

A tenant hiring premises on lease is bound to perform tenantable repairs, which may be divided into three heads—the ornamental, which includes the trades of painter and paperhanger; the substantial, which includes the trades of bricklayer and carpenter: the third includes all works which tend to preserve the fabric from decay—as stopping out wind and weather, which includes the trades of the joiner, plasterer, and glazier.

Dilapidations caused by accident are very serious upon a tenant, as not only is the accident considered as a dilapidation, but all injuries arising therefrom, of which the following is an illustration from Mr. Gibbons:—"If a building be covered with weather boarding, and such boarding decay from age, so long as it forms an entire and complete covering, it is no dilapidation, but if, owing to any neglect,

any of the internal woodwork become injured, that is a dilapidation. If the main timbers decay, they are not chargeable as a dilapidation so long as they are an efficient support; but, if they give way, the tenant is bound not only to replace the timbers, but all damage done by their fall. Accident, shown to be inevitable, such as resulting from tempests, does not fall upon the tenant, as in the case of a house being prostrated, the tenant need not rebuild, but if the roof be blown off the tenant must replace it. A tenant generally speaking is *not* answerable for dilapidations resulting from natural decay, or the result of time, or fair ordinary wear and tear, but *is* answerable for all extraordinary decay. For instance, as to decay caused by the premises being exposed to the weather, as if the roof be suffered to go in bad repair, the tenant must make good the rafters and other timbers, if they are injured. Lord Chief Justice Tindal defined a tenant's obligation to repair thus:—"Where an old building is let, and the tenant enters into a covenant to repair, it is not meant that the old building is to be restored in a renewed form at the expiration of his tenancy, or that the premises shall be of greater value than it was at the commencement. What the natural operation of time flowing on effects, and all that the elements bring about in diminishing the value, which so for, as it results from time and nature, constitutes a loss, falls upon the landlord. But then the tenant must be careful that the tenement do not suffer more than time and nature would effect. He is bound to keep the premises in nearly the same state of repair as when demised."

An annual tenant's obligation has been thus laid down by Lord Kenyon. "A tenant from year to year, is bound to commit no waste, and to make from time to time fair and tenantable repairs, such as windows and doors that be injured during the tenancy." Lord Tenterden decided that an annual tenant was bound to keep the premises wind and water tight.

It seems but justice, that under any mode of letting or hiring of house property, a tenant should be bound to use all ordinary precautions to preserve the building from decay; therefore there exists an obligation to keep the outside and the roof sound, perfect, and water tight; and if the internal woodwork decay sooner than it otherwise would do for want of paint, &c., the tenant is bound to restore it. Glass, if cracked or broken, becomes dilapidation, it being an outside covering.

A tenant with no agreement as to duration of his tenancy, cannot be bound to perform any repairs, the nature of his tenancy being so weak that he cannot be expected to do any repairs, as his landlord might immediately determine his tenancy, and reap the advantage to be derived from the outlay: besides, if the house require any repairs being done, the landlord can enter and take any necessary steps for its preservation; but not so with premises let for a definite time,—then, the landlord having granted the use for a certain period, has not right to enter upon the premises until the expiration of the tenancy. A tenant under this mode of letting, is however bound neither to commit nor permit waste. This kind of tenancy may be considered rather as a "deposit than as a letting on hire," and the tenant's obligation may be defined as "to use the house with care."

FRANCIS CROSS.

HOUSE PROPERTY.—A friend informs us that the St. Paul's Head freehold public-house, in Crispin-street, Spitalfields, was sold by auction at the Mart, on Thursday, in last week, to Messrs. Taylor, the brewers, for 1,160 guineas. The rent receivable for the next thirteen years is only 42*l.* per annum. Property in Chippenham, Wilts, must be materially depreciated in value, for we learn from a local paper that property mortgaged some years since for 600*l.*, and yielding a rental of 40*l.* per annum, will not realize in the market 300*l.*; another property, let at 23*l.* per annum, and for which 400*l.* was refused eight years since, has been sold during the last week for 250*l.*

MR. BARRY AND THE METROPOLITAN SEWERS COMMISSIONERS.

DRAINAGE OF THE NEW PALACE AT WESTMINSTER.

SIR,—In the last number of THE BUILDER you have, as it seems to me, been betrayed into making unfavourable remarks upon the drainage of the New Palace at Westminster, from not being fully acquainted with all the circumstances relating to it. I think I cannot, therefore, do better, in order to disabuse your mind on the subject, than to send to you the enclosed copy of a letter which I have this day forwarded to the Metropolitan Commissioners of Sewers, relative to Mr. Austin's rejoinder to my remarks upon his report on the drainage of the New Palace, to which, as well as to the documents therein referred to, I have to request of you to bestow an attentive perusal.

I am, Sir, yours faithfully,
CHARLES BARRY.

Westminster, January 23, 1849.

This we have done, and we think we shall best discharge our duty to all parties by letting Mr. Barry speak for himself. We, therefore, give the principal part of his reply even where it refers to charges which we did not print. The letter is dated January 22nd. At the commencement Mr. Barry repeats his assertion that the only information which the commissioners' engineer ever received from him relative to the drainage of the New Palace "was, as he well knows, afforded to him for a far different purpose than that of enabling him to understand the system of it in detail, or to form any competent judgment upon its merits as a whole." He repeats, that the system adopted was carried out in accordance with the rules and regulations of the Westminster Commission and the data and assistance furnished by their officers.

"That with respect to the outfalls of the New Palace sewer, it was impossible, under the circumstances, that they could be placed otherwise than in connection with the public sewers.

That, agreeing with Mr. Austin, in thinking it immaterial whether the main sewer of the palace passes through 'vaults,' or 'arched spaces,' I have to observe that the term 'arched spaces' was made use of by me, to correct, in some degree, the false impression created by the exaggerated description and pictorial illustrations of those contained in his report; from which, it might be inferred, that the main sewer had been constructed in spacious vaults under the entire building, instead of passing, as it does, through comparatively small and insignificant spaces, at intervals, and under open gateways, intended to be filled up solid with concrete. It matters not, therefore, under such circumstances, whether the sewer passes, as he states, within 'about 12 yards from the basement of the grand saloon connecting the Houses of Lords and Commons, or immediately under it.'

The hole in the sewer alluded to, by which the engineer passed more than once into the vaults, was of course for temporary convenience. Mr. Barry understands one passage in the rejoinder as again referring to this hole, but this is not the case.

"That the whole of the statements in my remarks upon Mr. Austin's report, as to the levels of the main sewer, and the dimensions of the arched spaces through which it passes are correct, although attempted to be falsified by Mr. Austin, and that the inference which he deduces from one of them, as to the position of the summit level, is not warranted."

"That no part of the sewer was to my knowledge constructed at variance with the plans prepared for it, namely, with a current in the wrong direction; but that if this be the case, either from neglect or subsidence of the soil, the consequences are immaterial, and the remedy is simple and inexpensive.

"That the cause of a want of free drainage from the New Palace Sewer, has constantly been owing to the foul condition of the public sewers connected with it."

"That Mr. Phillips's offer of assistance in improving the drainage of the building was not solicited, and was not accepted, as I did not consider any re-arrangement of it to be necessary.

"That the 'safety flap,' which is sneeringly alluded to by Mr. Austin (but the omission of the mention of which in his report is not accounted for), is so named, for a very different reason than that which he supposes, or chooses to infer; but that it did really protect the New Palace from the stench of the public sewer, at the time of his examination, I have no doubt.

"That Mr. Austin has unfairly assumed what he is pleased to state I ought to have said as to the ventilation of the sewer, and has erroneously stated that I have acknowledged that foul air has escaped into the buildings and courts."

"That no inconvenience or nuisance *can by any possibility arise* from the main sewer of the palace being at times a reservoir for the retention and discharge of the drainage at every tide, such reservoir being perfectly ventilated by an up shaft, and every branch drain communicating with it being properly trapped, which Mr. Austin might have ascertained to be a part of the system, if he had thought proper to have duly examined or inquired into this matter.

"That the works recently executed in the sewer in furtherance of its completion, so far from reducing it to a dangerous condition, have, in fact, improved it.

"That it is not cut off, as stated, from all possibility of ventilation, being, as alleged, 'no better than a vast retort of 15,000 cubic feet, in which the foulest gases will be perpetually generating and escaping in a concentrated form into the buildings.' On the contrary, it is perfectly ventilated, and whatever gases may be generated cannot, in any form or degree, escape into the buildings,—a fact which I am prepared to prove to the commissioners, if they are disposed to accompany me in a personal inspection of the sewer, and of which fact Mr. Austin might have been convinced, if he had applied to me for explanation as to the completion of the system adopted."

This ventilation of the sewer by artificial means is an important feature, which did not appear in the report or reply.

"That the flaps to the branch drains are not fixed for the purpose of preventing the escape of foul air into the building, as Mr. Austin seems to suppose, although they may contribute to that object; but that other and perfectly effective means are provided for that purpose, of which he appears to be ignorant. All Mr. Austin's reasoning, therefore, upon these flaps, and the admission of foul air into the building, falls to the ground."

Mr. Barry denies the foul state of the sewer, and invites the commissioners to accompany him in a personal inspection.

He thinks it is utterly impossible that any serious effects can be apprehended from the foul matter that may collect in the main sewer, and that the inference of Mr. Austin to the contrary is altogether false, and calculated only to create unfounded alarms and unfavourable impressions.

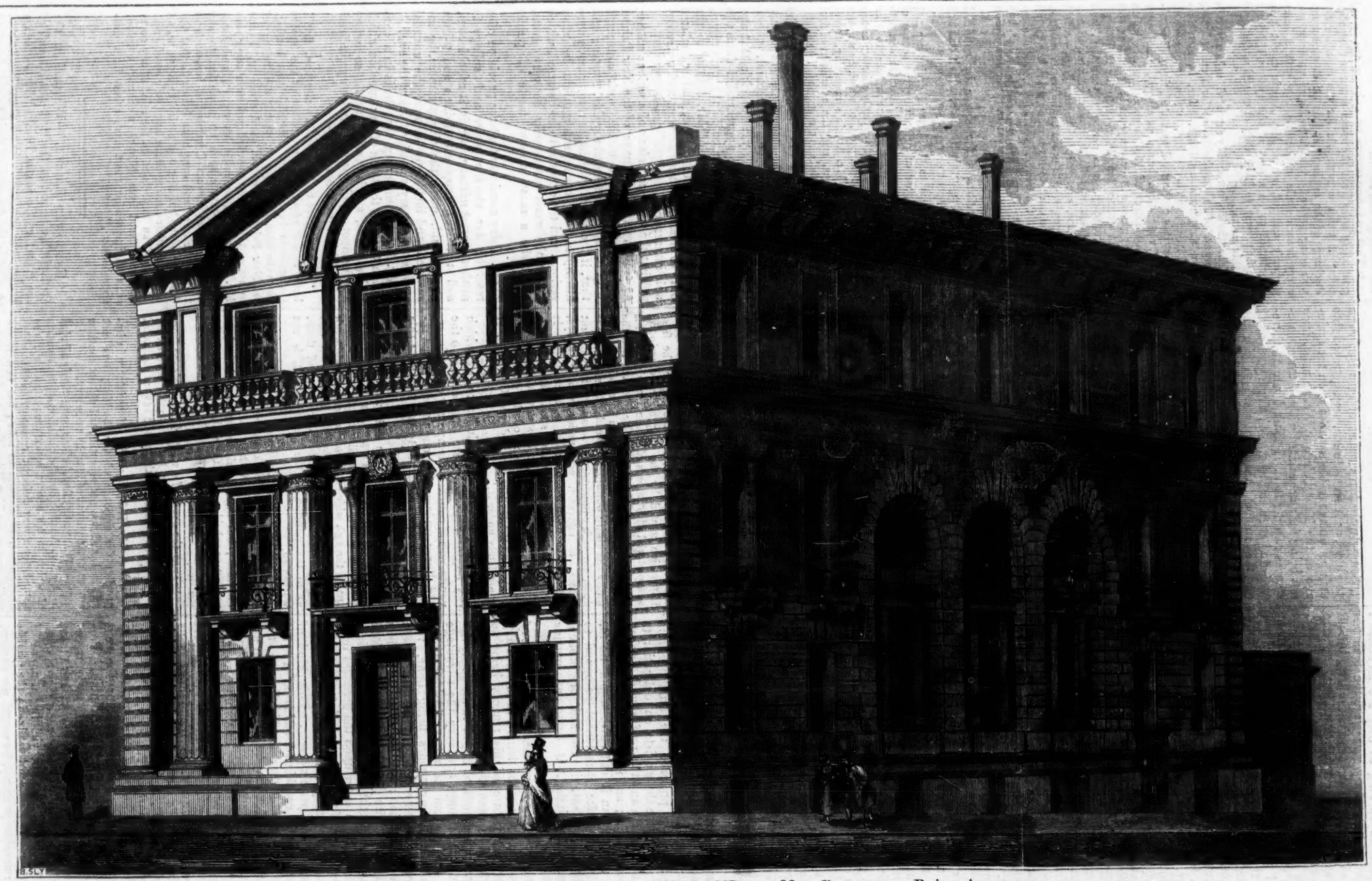
That there are no defects of a serious nature, as stated, in the drainage of the New Palace, to justify the removal of the work connected with it, as recommended by Mr. Austin; and that, if the remedy the latter recommends were attempted, the consequence might be most serious, and the expense to be incurred, which he thinks must necessarily be very great, would be a most wanton waste of public money.

Mr. Barry considers that the provision of a reservoir for storage water and sullage is neither a great mistake, nor is it mischievous, and that the proposed 15-inch and 9-inch pipes would, under the circumstances, be insufficient and inefficient to meet the unusual and extraordinary contingencies of the site.

Mr. Barry, remarking that he is in a condition to prove the truth of any assertion which he has made, and is "ready to do so before any competent, impartial, and unprejudiced tribunal," thus concludes:—

"With respect to Mr. Austin's assertion, that I have myself admitted to a member of the Sewers Commission in his (Mr. Austin's) own hearing, since the issue of his report, that 'the drainage of the New Palace was as bad as it could be,' I have to state, that to my knowledge I have never seen Mr. Austin since he made his report, and that I could not have made such an admission to any member of the Sewers Commission, inasmuch as I firmly believe, and ever have believed, that the drainage of the building is as perfect as it can be, all local and other circumstances being duly considered. If there is an impression on the mind of any commissioner that I have delivered a contrary opinion, such an impression must have arisen from misapprehension."

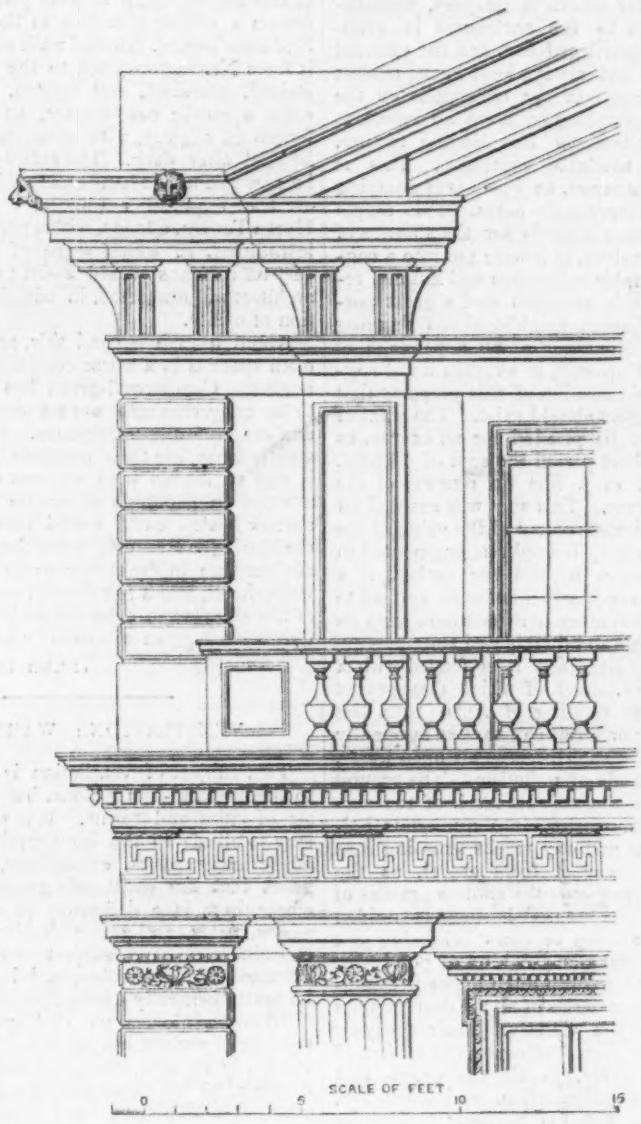
"CEMENTED BRICKS."—We read in the *Oxford Chronicle* that the first annual ball of the "Oxford Cemented Bricks" was held on Friday, the 5th inst. Who these bricks are, or what is the purpose of their being cemented into a society, we are not informed. We sincerely hope it is for something better than "moistening their clay."



LIVERPOOL BRANCH BANK OF ENGLAND.—MR. COCKERELL, R.A., ARCHITECT.

BRANCH BANK OF ENGLAND, LIVERPOOL.

CORNICE, &c., ENLARGED.



BRANCH BANK OF ENGLAND, LIVERPOOL.

WE have already alluded to the building erected in Liverpool for the Bank of England, as one of Mr. Cockerell's most successful works, and we now give a perspective view of it, and an enlarged outline of part of the front.

It stands in Castle-street, at the corner of Cork-street; the frontage next the former is 60 feet, and next the latter 117 feet. The height to the top of the blocking is about 62 feet, and to the apex of the pediment 72 feet. The columns in front are 4 feet 2 inches in diameter, and about 31 feet high. Both fronts are executed in Darley Dale stone: the plinth is granite. The entrance has a moulded red granite door-case, polished; each jamb is in one stone, 12 feet 3 inches high, 2 feet 3 inches deep, and 1 foot 3 inches face for architrave.

The central portion of the banking office (the whole area of which is 47 feet by 50 feet), is 31 feet high, and occupies two stories in height—namely, the ground and one-pair stories. The ground and basement stories are fire-proof.

Messrs. Holmes are the contractors for the bank, at the sum of 23,135*l.*

The flank elevation, although plain, is exceedingly effective in execution.

Mr. Cockerell has just commenced another building for the bank of nearly equal dimensions, but not so lofty, eastward of the new bank, in Cork-street. This consists of fire-proof chambers for merchants, and has a stone exterior.

AWARDS OF OFFICIAL REFEREES.

DISTRICT SURVEYORS' FEES.

WITH regard to the premises No. 2 and 3, Cushion-court, Old Broad-street, in the district of the northern division of the City of London, the referees received a requisition from Messrs. Sabine, which recited "that the said premises, or house or houses, are united by means of openings in the third and fourth stories, being the two topmost stories; and that the said premises taken as two distinct buildings are each of the second rate of the first class, but, taken together, constitute one building of the extra first rate, and that the district surveyor claimed that in respect of any services performed by him as district surveyor in respect of any part of the said premises, such services are to be considered as services performed in respect of the whole, that is, in respect of one extra first-rate dwelling-house." Messrs. Sabine, however, contended that any service or work performed in respect of part of the said premises would be a service performed in respect of such part only, that is, in respect of, or to one second-rate dwelling-house; and they requested the referees, the district surveyor concurring in the application, to determine whether the said premises, by reason of their being united, were to be deemed for the purposes of the Act, one building only as claimed by the said district surveyor, or two distinct buildings, as claimed by the said William Sabine and Son.

The question had relation to the fee chargeable by the district surveyor for inspecting and reporting to the official referees upon party walls, and the district surveyor stated at the hearing that he grounded his claim upon the rule in Part 1 of schedule C. of the Metropolitan Buildings Act, headed "Rule for ascertaining area," and contended that the premises constitute one building of the extra first rate, the whole of the one pair or third story being united by openings in the party structure, and the whole of the said premises being in one occupation; to which Mr. Sabine replied that the premises had two separate entrances and staircases, and that the rates had been paid on the premises as for two houses.

The referees determined that the premises were to be deemed for the purposes of the Metropolitan Buildings Act, as to the matter in question, to be two distinct buildings, and that the fee payable to the surveyor was the fee for a building of the second rate. The costs to be paid jointly.

CONSTRUCTION OF EAVES AND CORNICES.

In the case of two third-rate dwelling-houses in Studley-road, Clapham-road, in the district of the southern division of Lambeth, the district surveyor lodged an information to the effect that Mr. Robert Cox had commenced the works requisite for the completion of the said two houses, without any notice of the same to the district surveyor, as directed in section 13 of the said Act, and had constructed overhanging eaves of timber, and covered the facia and soffit with galvanized iron or zinc, contrary to schedule E of the said Act.

At the hearing it appeared that the roofs of the houses are separated by a party wall, but that the eaves are not so separated, that the two houses stand at a distance of about 7 feet from the next adjoining buildings in other occupation, and of about 3 feet 6 inches from ground in other occupation, and that the houses stand on one side of a wide road, and are consequently far removed from the opposite houses.

The referees directed that such parts of the cornices as abut upon other buildings or ground not in the same occupation with the buildings, whereof the said cornices form a part, should be amended, by taking down the metal casings which have been fixed upon the ends of the rafters, and replacing the same with iron laths and lime-and-hair plastering, such laths being laid into the brickwork at the least 4 inches, and bent up to form a base for the plastering of the facia, and so as to cover the ends of the rafters and the edge of the eaves board; and, as respects the cornices on the fronts of the said houses, that the same should be amended, by separating them in the line of the party wall by a corbel of brick or stone of the full width of the party wall, and carried at the least 2½ inches above the roof, and 1 inch at the least below the soffit, and 1 inch at the least beyond the outside of every part of such cornices, such corbel being built or fixed, as the case may be, to the satisfaction of the surveyor of the district.

THE GAS MOVEMENT.

MISCELLANEOUS NOTES.

EVERY ward or other district within the city bounds has of late been rising, one after another, into an energetic resolve to have an abundant supply of cheap and good gas. At one of the most recent of these manifestations, in the ward of Farringdon Without, attention was drawn to another of those indirect means by which we have exposed some of the most cherished secrets of the gas-house,—the report of a *public* establishment as to the expense of providing its own gas. The report referred to was that of the Pentonville Prison, from which it appeared that, in the consumption of gas and the expense of manufacturing it for that establishment, a very considerable saving had been effected, as shown by the following statement:—

Sum expended in coals	£488	17	7
,, in wages, &c.....	140	19	11
,, in retorts, &c.	122	2	10
Total.....	£752	0	4

The sum produced by the sale of coke was 398*l.* 6s. 3d., leaving the net cost of gas 353*l.* 14s. 1d. The quantity of gas consumed in the prison was 2,693,000 cubic feet, which was at the rate of 2s. 7½d. per thousand, but which previously they had paid the company 7s. 6d. for, and which would have cost 942*l.* instead of 353*l.* Deduct the cost of manufactur-

ing, &c., and there was a net saving of 588*l.* 17s. by manufacturing their own gas. This report, therefore, fully justifies our exposal of "the average cost of gas" from the records of an extensive establishment at Leicester obtained for the purpose. The meeting passed resolutions expressive of their determination, and advised the appointment of gas inspectors by the City authorities, and the stamping and adjustment of meters, as of all other measures and weights. A continued 'pressure from without' upon the authorities was also resolved on.——A hybrid between a consumers' company and one of the old stock has been announced as "The Surrey Consumers' Gas-light and Coke Association," for the supply of gas at 5s. per 1,000 cubic feet, with a bonus to the consumer of one-fourth of the profits, the other three-fourths being reserved to the proprietors, who are also to sell superior screened coals at a reduced price, using the small for coke. The general want of faith in meters is proposed to be obviated by a return, where desired, to the contract system, at charges per burner ranging from 2*l.* to 4*l.* per annum—surely far too high, as the 5s. per 1,000 also is, in these economical and reforming times, and especially with profits on coal, &c.——In an unsuccessful attempt of the Bedford County magistrates lately to get the price of gas supplied to the prison reduced, the gas company confessed that "the practice of making a difference in the charges between public bodies and private individuals was unjust." The price charged is 7s. 6d.—not a fair price, as the county surveyor maintained. Six shillings were offered, but refused by the company, and the surveyor stated, when the subject of making their own gas was under consideration, that while 75*l.* per annum was payable to the company for lighting the prison, works would cost in all only 600*l.*, expense of making the gas nothing, and saving on whole at least 3s. per 1,000 feet. Parties had undertaken to supply both gaol and town at a moderate rate. The Bedford Company, we perceive, by the way, sell their coke at 25s. per ton—'*reduced* price'—a fact that may hereafter be of use.——At Lynn the price of gas has been reduced to the still rather too respectable price of 7s. per 1,000 feet. ——At Cambridge, lately, while the authorities had the subject of gas under discussion, and on a statement being made that the profits of the company did not amount to 10 per cent., an exposure was made by Mr. Foster of the but too general falsity of such statements. By this company's act a capital at least double what is called for or necessary, or in fact used, is authorised, and on the whole of this the goodly interest or profit of nearly 10 per cent. is thus being reaped. "After a careful examination," added Mr. Foster, "I am prepared to prove that the cost price of gas ranges below 2s. 6d. per 1,000 cubic feet, taking every thing into consideration. That would bear a profit of 1s. 6d. at a price of 4s. I trust the company will read, mark, learn, and inwardly digest these things. Taking the necessary capital at 15,000*l.*, the per centage is thus at once raised to 18 per cent."——A correspondent of the *Liverpool Albion* complains, that since the amalgamation of the companies there, he can scarcely distinguish the three FS,—fish, flesh, and fowl, at his dinner table, by the light they supply him with.—— While Liverpool is thus retrograding into the darkness, some of those few primitive localities, which have never till now come out of it, are at length rejoicing in the light. Such, with the new year's advent, is the new state of things at Soham.——An ingenious pitman at Garesfield colliery, near Gateshead, according to the local *Observer*, has of late been fitting up miniature gas works, for single establishments, at about 25*l.* each. A Mr. Thomas Waugh, of Berry Edge, Gateshead, a publican, is amongst those already supplied.

"THE INDEX."—Under this title the spirited manager of the Western Literary Institution has commenced "a weekly Repertory of the Results of Modern Progress." It was the first to give an abstract of Mr. Staite's patent, enrolled on the 12th. We do not find anything in this specification, by the way, which removes our fear as to the cost of producing the light.

A DEMONSTRATION ON KENNINGTON COMMON.

THE open spaces, known as squares, which peculiarly distinguished London from other metropolitan cities, have always been a theme of gratulation for healthful purpose, notwithstanding access to the enclosures is available only to a privileged few, and the external boundaries are not always kept in the neatest trim. The portion of the metropolis on the Surrey side, embracing so great an extent, is singularly deficient in this leading feature, with but one available exception. This is Kennington Common, an open area covering an exposure of seventeen acres. This ample space would make amends for the absence of lesser sanitary valves, if it were put into a condition for leisurable enjoyment and rational recreation. As this common and a great portion of the adjacent neighbourhood forming the manor of Kennington, an appendage of the Duchy of Cornwall, it exhibits a sad neglect of the administration of this property that such visible neglect should exist. The want of funds can never be pleaded for an excuse, as only within a short period the sum of 75,000*l.* has been paid as a fine on renewal of the lease of the manor. This sum was exacted on account of the improvement of the value of the property, and surely it would be augmented in a great proportion beyond the outlay, if a small part of the above fine were applied to rescuing this seventeen-acre common from its present degraded and dilapidated state.

In its present condition it is fenced with a low wooden rail, much of which disappeared at the Chartist meeting of April 10th last year, and a bar or a rail vanishes so frequently since that it may soon become an open waste, liable to all kinds of pollution. The ground is a flat, lying below the level of the surrounding roads, worked into numerous hollows, with some pathway tracks crossing it as innocent of a layer of fresh gravel, as the trails of wanderers over the endless prairies of the far west. The stunted herbage is trodden and soiled by a troop of cows belonging to a neighbouring milkman. A kind of pond near one corner, and a deep ditch opposite South-place, are the cemeteries of all the dead puppies and kittens of the vicinity. Their decaying carcases may be seen floating on the surface of their watery graves, in all the green and purple tints of putrefaction, and smelt too, if the nose is not too strongly tickled by the fumes of the adjacent vitriol works. A diagonal trackway from Newington-place to the Brixton and Camberwell roads, is a great saving of distance to the tired, but after nightfall the pedestrian is exposed to annoyance, and when the weather proves continuously wet, the transit resembles the intricate navigation of an archipelago.

In the day time the common is the resort of idle youths occupied in low gambling, and towards/ the afternoon of summer days, numerous parties playing at cricket obstruct the paths in all directions, and render any desire of tranquil respiration liable to the penalty of having an eye knocked out or a nose broken, which have happened on occasions. The respectable persons who sometimes use it as a cricket ground need not complain of any privation of their amusement, as not more than a hundred yards from the common, the enclosure of the Oval offers, at a very insignificant cost, ample accommodation, without causing annoyance or creating danger.

The extensive vitriol works on the eastern side emit a constant stream of sulphuric vapour exceedingly annoying to the nostrils. Whether the inhaling of it is beneficial or injurious to the lungs, is a question that ought to be answered by the sanitary oracles, but at any rate, they are so offensive to respiration that one is always glad to escape from their range. There can be no mistake though of the impurity of the ditches around and about the vitriol works: a very long one leading towards Camberwell, skirted by a foot-path, presents an accumulation of black offensive muddy liquid, receiving constant contributions from numerous unmentionable conveniences attached to a line of low cottage erections. The drainage of this locality being remarkably difficult, the foul matter of these ditches can only be absorbed by atmospheric action, instead of being conveyed to the "cloaca maxima," or universal cesspool, called the Thames.

Kennington Common, seventeen acres in extent, would at some outlay by able hands, become a great ornament to the southern half of the metropolis, if it were planted and laid out on a similar principle to the enclosure in St. James's-park. A broad walk should intersect it from Newington-place to the Brixton-road. Raised, gravelled, and lighted, it would become a public convenience, and it might be fenced off slightly, with occasional openings to be shut after dark. The entire circuit should be enclosed with a handsome railing, and gates at the required entrances. Opposite the Horns Tavern, a lodge, with a portico, might be introduced, in which some of the Quadrant cast-off columns would assist to construct an architectural ornament, in addition to an erection of utility.

About a mile beyond this, another smaller open space is in a worse condition of filth and neglect. Camberwell-green has been suffered to be converted into a vast deposit of slush and mud of all descriptions. Carts are constantly emptying their contents into it; and it is now so loaded with soft wet stuff, that any attempt to penetrate otherwise than by the narrow beaten track, would inevitably plunge the daring adventurer knee deep. A solitary ancient tree in the centre wears the weeds of witherhood, and a few dwarf lime trees on one of the sides seem ashamed to bear any leaves. Camberwell-green will soon be a misnomer.

IDLER IN LONDON.

VENTILATION: WARMING.

THE subject of ventilation is not confined to the dwelling-house alone, but extends to the air of cities and towns. It is scarcely necessary to allude to the innumerable sources of deleterious vapours, exhalations, odours, and gases that are constantly generated in cities where there is a deficiency in sewers, pavements, water, and general habits of order and cleanliness. This subject fortunately has attracted much attention, and is beginning to be pretty generally known.

History informs us that pestilence, the scourge of society, has prevailed frequently and virulently in ages, countries, and even special districts, in which cleanliness and the proper ventilation of houses have been little considered. Without entering on the various theories respecting the exciting causes of pestilential disease, a little research will afford sufficient proof that want of cleanliness has been a principal cause of their aggravation and rapid diffusion. If we read the account of our own metropolis during the last calamitous visitation of the plague in 1665, and compare it with its present state, we may convince ourselves, that our present exemption from the recurrence of such an evil is secured to us on better grounds than those of precautionary laws of quarantine. At that period, in the history of that vast city, the streets were narrow, the houses projected in the upper story, and the spaces between them crowded with large signs hung across, thus checking the free circulation of air, essentially necessary for the health of the inhabitants.

To the miasma constantly engendered and rising from open drains and neglected sewers, were added those caused by the fermentation of heaps of rubbish ejected from every house, and which the indolent inhabitants could scarcely be compelled to remove. Nature has provided means of carrying off impure air and replacing it with such as is suited to animal respiration; but here its intentions were defeated both by the construction of the buildings and the habits of the people. Drainage as well as ventilation of the buildings, was at one time totally disregarded, and the result was, a perpetual recurrence of fevers.

G. J. R.

Another correspondent, S. S. T., calls attention to the common practice of planning and running up buildings, without first arranging the mode of warming and ventilating them. He says,—It often happens that, from want of this previous arrangement, the kind of apparatus best adapted to the purpose cannot be used; or the walls have to be cut into, disturbing their solidity; or something unsightly

or inconvenient has to be introduced into the apartments; to say nothing of the risk of fire, which is often incurred. Now, every one who understands warming buildings could arrange his plans, and give his estimate of them, quite as well from the architect's drawings as from the building itself. If architects would prepare for what was to be done beforehand, we might have better apparatus arranged, in a more convenient manner, at less expense.

Once a fortnight we are coolly asked to describe the various methods which might be used for warming this staircase or that house, and to point out the best. We have on various occasions treated the general question of heating and ventilating (may do so again), and never omit to mention fresh suggestions or inventions bearing upon it. The treatment of special cases we cannot enter upon: we recommend application to (ourselves professionally, if they please) properly qualified parties, who will advise with reference to the particular circumstances.

PORTER'S PATENT CORRUGATED IRON BEAMS.

MR. PORTER, of the Iron-roofing Works, Southwark, who has used *corrugated iron* largely in the construction of portable houses for exportation, has taken out a patent for the employment of it in the construction of beams, believing that the corrugations so far strengthen the iron as to obtain for beams so formed, great power of resistance with small weight of metal.

The following is an account of an experiment recently tried upon two beams made on this plan, of the extreme length of 22 ft. The span between supports was 20 ft. 6 in.; depth of beam, 18 in.; weight of beam, 8½ cwts.; the top and bottom frames were of 4 in. × 4 in. T-iron, and the base ½ in. thick; the plates of corrugated iron forming the beam being of No. 16 gauge, and the bands 1½ in. × ⅛ in. thick. The two beams were placed 9 ft. apart, and across these were laid two large oak blocks, weighing 1 ton 3 cwts., and supporting the further load. These blocks, or bearers (the one 19 in. and the other 24 in. wide), were 4 ft. 3 in. apart from centre to centre, and equidistant from their centres to the centre of the beam, 25½ in.; upon these were laid cast-iron blocks, weighing 6 tons 17 cwts. This weight was put on on Saturday and remained till Tuesday, without causing any deflection. On Tuesday, in the course of an hour-and-a-half, an additional load was applied of 121 bundles plate-iron, weighing 7 tons 3 cwts. 0 qr. 16 lbs., producing a deflection of $\frac{9}{10}$ in. This load was allowed to remain from 1 p.m. on Tuesday until 10 a.m. on Wednesday, in course of which time the deflection had increased $\frac{1}{16}$ in. Fifty-one bundles of plate-iron, weighing 3 tons 9 cwts. 1 qr. 2 lbs., were now added, which caused a total deflection of 1 in. bare; rested a quarter of an hour, when 32 bundles of plate-iron, weighing 1 ton 18 cwts. 0 qr. 12 lbs. were added, which increased the deflection to $1\frac{3}{8}$ in. and $1\frac{5}{16}$ in. respectively; the difference being evidently occasioned by the settling down of the piers, giving a greater load to one beam. A further load, weighing 2 tons 8 cwts. 3 qrs., brought the deflections to $1\frac{5}{8}$ in. and $1\frac{3}{4}$ in. This loading was proceeded with gradually during three hours, when the load was left for an hour. In the meantime a slight noise called attention to a partial dividing of the bottom flange of T-iron, in the beam which hitherto appeared the least strained: upon examination, it was found to have originated in a flaw near a "shut" in the T-iron, distant 6 ft. 3 in. from the point of support,—this caused a further deflection of $\frac{1}{16}$ in., but the fracture did not appear to increase during half-an-hour. The deflection of the beams increased to 2 in. and $1\frac{3}{4}$ in., with an additional load of 2 tons 6 cwts. 2 qrs. 22 lbs. load applied gradually during three-quarters of an hour. After a further lapse of 10 minutes, a further load of 7 cwts. caused a rapid deflection in the already-weakened beam, the corrugated iron giving way at the same time to the strain of the rivets longitudinally. The beams were now blocked up to prevent any accident from the sudden falling of the load. The corrugated iron of the other beam was also found to have yielded in several places to the longitudinal strain of the rivets, principally in the lower part of the beam.

The breaking weight is, therefore, considered to be about 25 tons, exclusive of the weight of the beams.

The inventor considers that his beams will not weigh more than one half, or 5-8ths, of the weight of cast-iron beams to carry the same load, and that they may be made for 21*l.* per ton.

A SCHOOL OF DESIGN FOR LEICESTER.

AN influential and respectable meeting lately took place at Leicester, to memorialise Government for aid in their endeavours to establish a School of Design there. The mayor presided, and a series of addresses followed. Mr. Alfred Burgess impressed on the attention of the assembly the importance of an idea of our own, that the young should be taught to express or describe their ideas by drawing, or in forms, just as they are taught to express them by writing, or in words; and the allusions of others to the same idea, as well as the responses of the meeting itself, were evidence that it was appreciated. Mr. Hollings remarked that the pursuit of the fine arts might be shewn to be necessary to society at large, as materially involving the diversion of labour into various channels. Want of a greater variety of employment was one of the great causes of existing distress. Let it not be said, either, that the advantages of the fine arts were to be seen merely in the production of luxuries. What was the luxury of one age, became a necessary in the next. How much occupation was now afforded even there by the employments of carving, gilding, painting, inlaying, designing of furniture, marbling, engraving on copper and wood, &c. Yet how serious would be the effect, if those engaged in their production were suddenly withdrawn from this field of labour, and thrown into that of the staple manufacture of the town! Moreover, the fine arts were so essentially connected, that the study and practice of one almost invariably called forth or involved that of others; and then, too, how much indirect advantage they further afforded, as involving numerous other occupations in themselves not purely artistic. Take, for instance, the manufacture of an ordinary porcelain vase—to be found on the mantelpiece of most of the middle classes in the town. How many branches of industry were connected with it, with which the genius of the designer had nothing to do. There was the collection and preparation of the crude material by the various processes of breaking, sifting, and working—the manufacture of the metallic oxydes to be used by the artist—the subsequent processes of glazing and firing; all distinct branches these, to be carried on both before and after the impression of the design upon the ornament—the only process upon which art was directly though essentially concerned. In short, the more we multiplied the influence and operations of art in connection with the production of luxuries, the more we should multiply profitable occupation and employment for the people. For, in this case, the usual maxim of political economy was reversed; instead of the demand creating the supply, the supply created the demand. As an illustration, just let them look at the improvement in the form and material of common earthenware within the last hundred years,—a change entirely owing to the residence of a few cheap Italian modellers in England. It was for the above and similar reasons that he should like to see a School of Design established in Leicester. The importance of design and variety of pattern and style, even in the staple manufacture of embroidered gloves, fancy hosiery, &c., themselves, was afterwards also pointed out by others ere the meeting closed.

COMBINATIONS AND STRIKES.

WE have received several letters on the subject of recent differences between operatives and their employers, but do not think it desirable to prolong the agitation by publishing them. The majority of them are from working men, deprecating, to the credit of the writers be it said, any thing like intimidation. Some of them display much good sense. The following is part of one from "An Old Mason."

"Combinations and strikes are decidedly injurious, diminishing trade on the one hand, increasing immorality on the other; and are one of the great causes of our present distress, for an increase of crime will cause an increase of poverty. Crime, and that which leads to it, are the most expensive of all evils; witness, for instance, our prisons, hospitals, poor-houses, police force, and a multiplicity of other officers to put in force the laws of the country. These are some of the natural consequences and expenses attendant on crime; and unless there be a decrease of crime, we may look in vain for better times.

We are as a nation conscious of labouring under great difficulties, and many and loud are the complaints against those who sit at the helm of affairs. But one truth is evident, that while such large sums of money are necessary for the punishment of crime, the expenditure must greatly diminish the means for promoting the moral welfare of the people. It is also obvious to any strict observer, that many of those who are loudest with their complaints, and are crying out for reform, are most effectually impoverishing their country. Even under present circumstances, the industrious and frugal mechanic can usually maintain himself respectably; and if we make a fair calculation, two-thirds of the poverty and distress experienced among the working classes are brought on themselves by bad habits. There is too much ocular demonstration in this city for the fact to be denied. We want better times, is the common cry; we want wages raised and taxes diminished. Let us suppose we could obtain them both. A few that are economical would make more rapid progress to independence; the many who are careless and prodigal would descend in the scale. But still the desired object may be obtained, and obtained fairly. A decrease of crime will naturally cause a decrease in the taxes. Peace between employers and employed, the government and the people, will promote the prosperity of trade. Plenty of labour will of itself ensure a fair remuneration. A proper improvement of wages will keep poverty at a distance, and secure to us peace and plenty. It is evident, therefore, that crime, poverty, disease, and distress go hand in hand, whilst peace, industry, and frugality lead to happiness and independence. Reader, choose for yourself, but remember, the man who is punished for his crimes at his country's expense is increasing the burthen of the honest and industrious."

THE ANCIENT CHURCH AT GREENSTEAD.

SIR,—I infer, from a paragraph in THE BUILDER, that a wrong impression has gone forth as regards the wooden church at Greenstead, namely, that it has been destroyed, or at least partially so. Now, Sir, that is not the fact, and if any person, having seen the outside of the timbers six months ago, could see them at the present time, they would scarcely be able to say, from their appearance, whether they had been removed or not. It was also stated that it was owing to the ravages of insects that it had become necessary to take it down. This in some measure is correct, as the lower ends of the timbers were in many instances perforated, but not to any great extent. The principal cause of its being taken down was this: the oak cills having been laid on the earth, with merely some rough flint put under them at intervals, had become so rotten as to let the upright timbers drop through, and had not the ends of the wall plates rested on the brickwork of the chancel, a great part of the nave must have fallen. It has been the particular wish of the rector, the Rev. Philip Ray, by whom the expense of the rebuilding the church is principally defrayed, and also of Mr. Wyatt, the architect, that every part of the old timbers should be preserved, and I have been careful to carry out those wishes: the only parts lost are about 6 inches cut from the lower ends; the timbers have been fresh tenoned and inserted in oak cills laid on brickwork, 12 inches from the ground, so that there is every reason to presume they will last as long as they have already stood, for the planks, when cut, were so hard as almost to defy the saw. A new roof, open, and stained oak has been put on, having dormer windows, with stained glass, inserted. The whole of the plastering having been taken off, the planks are now seen inside. The pews are taken away and new seating fixed. The church will be open for divine service about the middle of February next, when any who feel a veneration for the relics of bygone days, will be able to see that this ancient structure has been preserved to the fullest extent possible.

JAMES BARLOW, Builder.

Chipping Ongar, Essex.

FLUSHING AND FLASHING.

SIR,—I see that you have used the word "flashing" (BUILDER, vol. 7, p. 32, col. 2) with reference to the cleansing of sewers by water. Will you permit me to make a friendly protest against the substitution of "flashing" for "flushing?" "Flush" appears to be derived from the German FLUSS, a flood,—and to be generally used with reference to fulness or bulk, as well as rapidity or violence. The idea involved appears to be that of a flood, or rushing body of water. "Flash" appears to be derived from φλοξ, or the Anglo-Saxon *Fliccerian*, and to be generally used with reference to brilliancy and extension. The idea involved appears to be that of a flame or sparkling appearance. I would submit that the rush of a bulk of water through a sewer may properly be termed a "flush," and the splashing of a sheet of water over a street might as properly be termed a "flash." If this distinction should be adopted, the advocates for each of the words would have, it may be hoped, plenty of opportunities for using both without confusion; for if it be good that our sewers should be cleansed, it will not be denied that it would certainly be beneficial to the public, to have a little better scavengering above them than prevails at present; and the water which had "flashed" the streets from hose or water-cart, might be dammed up, under ground, until it had head enough to "flush" the sewers. N. R.

Miscellanea.

ST. PATRICK'S CATHEDRAL.—The 4,000*l.* some time since subscribed for the restoration of much that was dilapidated and out of order, have not only been exhausted, but the Dean, the Hon. H. Pakenham, who began the work at his own expense, has become responsible himself for one-half of an equal sum, namely, 2,000*l.*, and has paid the interest on it till now that he has subscribed a second time 1,000*l.* to aid in making up the deficiency and further advancing the good work, which is by no means complete, though twelve arches which had been blocked up have been disencumbered, and other works accomplished. The lady chapel still lies uncovered, and the choir itself is in a most unfinished state. Subscriptions, therefore, are again solicited.

BIRMINGHAM WORKHOUSE COMPETITION.—Fifty-three sets of plans have been sent in. One would suppose, says the *Birmingham Journal*, that architects had been doing nothing else for the last month or two but making workhouses on paper, and erecting little models for the accommodation of the midland counties. The same paper doubts, with great reason, that the best design will be chosen, and thinks a proposition which was made, to "toss up for it," not so absurd as it seems.

ST. MARGARET'S CHURCHYARD AGAIN.—Sir: Perhaps there is greater danger in opening the ground here for interment than in any other churchyard in or near the metropolis. The soil is a loose sand, like the sand of an hour glass, and such is its tendency to run back that when opening a grave it is necessary to support the sides from top to bottom: it does not absorb the defunct remains, but they lie a dreadful compound, engendering malaria of direful effect. After rains, in hot weather, the evaporation is charged with effluvia as unbearable as a death chamber; add to which, the church is entirely lined with woollen cloth, and when the doors and windows are open, of necessity gets charged with this deleterious vapour. Although there may be some doubt of its affecting the stones of the abbey, there can be none that the numerous inhabitants of the abbey precincts must suffer incessantly from the bad atmosphere it creates. I know a lady injured in her health, which her physician attributed to her passing through the place, and gentlemen, whose avocations call them that way, avoid passing through. No time should be lost in covering over this pestiferous ground. It is a plague spot, that the most valuable lives in the empire, during the sitting of Parliament, are exposed to: besides, it is surrounded by a large population and overlooked by an hospital for the sick and maimed. —NO IDLER IN LONDON.

GOVERNMENT INQUIRY AT CHELMSFORD.—On Tuesday week Mr. Cresy's inquiry was opened. Mr. Fenton presented a laborious map, said to show the exact state of the drainage in every house, and which is to be published (for behoof of sensible tenants, we presume, and as a hint to landlords, and an example to other towns). The drainage is exceedingly defective. Nuisances of a foul character were discovered lurking in back drains and ditches, and the sewerage also was found to be generally imperfect. In one spot 100 recently built houses are drained into one totally inadequate cesspool. Mr. Cresy suggested the formation of a system of sewerage into tanks for agricultural purposes (the sewage in which, Mr. Baker observed, could be precipitated by mere ordinary whitewash and the inodorous water drained off). The inspector also pointed out that house-drains, in place of passing below the apartments to a front or street sewer, might be centered in a sewer along the backs of the houses, and much more out of the way of pollution to the inhabitants. The supply of water from the Burgess well, ten or twelve Artesian wells, and otherwise, was examined, and the means of increasing and raising the supply to the second floors of houses considered. A diminution of late years was attributed to leakage and artesian wells. The crowded state of the principal church-yard was complained of, and four others considered, and it appeared but too probable that even the water was contaminated. The inclusion of Springfield with Chelmsford, and the universal dissatisfaction with the operation of the present Act, were the other chief subjects brought under the inspector's notice.

EVILS OF SHORT LEASES.—Sir: I am delighted to find you holding up to light the evils of short leases. I have lived in France, America, Canada, and all the Channel Islands: in all these countries leases, if leases they can be called, are without limit; and in all these places the leaseholder has the right to buy off the charge or give some other property for rent, and make his own free for ever. I went once with a friend in Paris to buy a large piece of land, near the Triumphal Arch. The owner told my friend that the purchase-money was 57 francs per toise, but he only required one house to be built, that all the purchase-money should lie at 5 per cent. until the purchaser pleased to pay it off. My friend agreed, built one house, and then sold the residue at a good profit. In consequence of the good title of all building land in France, and every other country I know but England, house property, being freehold, *ranks first in the list of securities for capital.* It is quite the reverse in London: *too* true is this baneful story told. Look at the many mouldering carcases, fit for nothing but to pull down, standing on the Crown and City lands, New Oxford-street, Holborn, &c. &c., taxed with a ground-rent of ruinous extent, and a lease so short that no honest or calculating man would have anything to do with them.—J. C.

USE OF BATH STONE.—We have received several letters in favour of Bath stone, but no end would be answered by inserting them. The mere assertions of parties (however respectable), unknown beyond their own circle, will not weigh against recorded facts, and the published opinions of impartial men known to have studied the matter. Fresh facts and experiments establishing facts we will gladly insert and give attention to. One correspondent from Bradford, Wilts, who says he has used many thousand feet of it, writes thus:—The principal failure in Bath stone is attributed to inappropriation, and the remedy for this as advised, is to lay the stone as in its native bed. This system holds good in plain faces, but in cornices or other projecting parts which are more exposed, it does not: the stone should be used *joint headed*, and so of copings. There are many difficulties in the selection of stone, from whatever quarries it may be brought, particularly in Bath stone, which is dug in a range of hills extending many miles, each hill producing stone of a different relative value; and these are not to be selected by any inexperienced person, as it often happens that the best in appearance is the worst for use and durability, and it is even so that in the same block we may find one portion more durable than the other.

PROJECTED WORKS.—Advertisements have been issued for tenders, by 10th February, for erecting prisoners' cells, kitchen offices, infirmary, boundary wall, &c., at the county jail, Huntingdon; by 26th February, for the masons' and paviors' works, supply of Guernsey granite chippings and Yorkshire paving for one year, for the parish of St. George's, Hanover-square; and by same date for the supply for one year of workmen's tools and hammers for stone breaking and repairs of same, as also for iron lamp posts and gas fittings.

NOT BORN TO BE DROWNED.—A lad named Gilder, an embryo mason, was descending a ladder near Liverpool, when a round broke, and he fell to the ground upon his feet. Rebounding, he next came down into a deep well, whence he was drawn unhurt. Such escapes should be no encouragement to carelessness. A fall of as many inches another time may be his death. We remember seeing a carpenter some years ago fall from the top of a high building to the bottom, passing two floors of naked joists in his way (going through his work neatly, if we may so speak) and getting up unhurt; while on the same day an acquaintance coming down stairs, and fancying he was at the bottom of the flight when there was in reality yet one step to descend, broke his leg in the fall that ensued.

HYDROSTATIC PRESSURE REGULATOR.—A simple apparatus has lately been invented and registered by Mr. Bryce, plumber, Glasgow, for the reduction and regulation of the hydrostatic pressure in supply-pipes connected with street water-mains. It is said, by its means, whatever the initial head pressure may be, the supply may be taken off for domestic purposes at any desired pressure less than such head pressure, with the view of avoiding the inconveniences resulting from an inordinate height of column, extreme rush of the water, the wear and leakage of cocks, &c.

CHURCHWARDENISMS.—A correspondent says,—"About six or seven weeks ago, I was surprised at finding that the pinnacles which crowned the buttresses of St. Peter's Church, Dorchester (the oldest one in this borough), were removed, for what purpose I could not then discover. However, I have since found out that it was in consequence of the churchwardens imagining that they *might* fall on some unlucky passer-by! although they had remained so many years immovable, and were at a distance of at least ten feet from the pavement, which was separated from the church by an iron railing. I hear, also, that there is no intention of their ever being replaced." Not knowing their condition, it is impossible for us to say whether or not the act is blameable. We trust, however, that the removal will lead to restoration.—"The churchwardens of Moulton" ("THE BUILDER should be upon their bones," remarks the *Gateshead Observer*), are said to have "removed the mullions and stone tracery from almost all the windows" of the beautiful parish church "to allow the passage of more light into the interior." It is comparatively seldom, we are happy to say, that we have to record such acts now. Surely there are some persons in Moulton who will vindicate architectural propriety. Had it been in Moultan instead of Moulton they could not have done any thing more barbarous.

PRESERVATION OF BOOKS.—A correspondent wishes to be informed the most desirable way of preserving books from the effects of mildew and damp, whether cases with glass doors, or frames without, and which is the most desirable wood for their construction.

SALE OF CAST-IRON.—Messrs. Hutchison and Dixon, auctioneers, Glasgow, sold at Troon, by auction, about 1,203 tons cast-iron. Mr. Dixon explained that the metal consisted of tram rails, and chairs, which had been used on the Kilmarnock and Troon Railway. The whole was divided into eight parcels, and sold at from 38s. to 41s. per ton. The malleable iron scraps brought 63s. 6d. The attendance of founders and dealers (the former of whom were the buyers) from all parts of the country was numerous. The sale was a quick and most spirited affair,—the biddings at the outset being near the prices realised. In addition to the price, there falls to be paid 3s. 9d. per ton of carriage to Glasgow, which brings the old iron nearly to the figure at which certain brands of pig are selling here.—*North British Daily Mail.*

TENDERS

For erecting infirmary wards at Poplar Union :—

King	£680
Brigg	661
Jeffery	606
Mitchael	600
Slade	597
Church	596
Hedges	595
Taylor	589
Wood	589
Heath	587
Walker and Soper	585
Bilson	578
Curtis	574
Howlett	563
Lister	558
Pilbeam	556
Catlin	553
Reader	553
Maxted and Harris	548
Blackburn	546
Tomlis	538
Wicks	531
Carder and Hack	499

For a house at Streatham, for Mr. W. N. Coupland. Mr. J. Cole, architect :—

Ward	£2,580
Germen	2,325
Lawrence and Son	2,290
Plumber	2,252
Dean	2,253
Hicks	2,120
Higgs and Son	2,045
Taylor	1,980

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

WEDNESDAY, JAN. 31.—Society of Arts, 8 P.M.

THURSDAY, FEB. 1.—Royal Society, 8½ P.M.; Society of Antiquaries, 8 P.M.

FRIDAY, 2.—Archæological Institute, 4 P.M.

TO CORRESPONDENTS.

"*Purification of Rain Water.*"—Some correspondents ask further particulars concerning the filtering tanks proposed for Norwich.

Received.—"T. H. H." ("Flues" shall appear), "J. and T. S.," "E. W." (Manchester), "A Friend" (at least he says so), "J. R." "T. H.," "J. E.," "Y.Z." (next week), "O. H." (Hyde-park), "E. S." (has been anticipated), "Young Builder," "J. W." (Glasgow), "R. S. F." (glue was advertised January 13th), "J. H. M. (the lead must surely be defective. Such dripping can scarcely be caused by condensation. Consult the architect), "S. J. C. (declined, with thanks), "F. P." (we shall be glad to see tracing), "A. W. R." (we believe no recommendation is necessary), "T. J. P.," "J. A. (write to 9, St. James's-square, Bristol), "J. G. G.," "J. M. L." (if the inquiry relates to a proposed architects' club, nothing is yet determined on), "Constant subscriber," (if within the operation of the Buildings Act, and the due notice be given of intention to raise wall, A. may, on expiration of the notice, go on to B.'s premises for the purpose. Otherwise it would be a trespass).

Several articles are unavoidably postponed.

"*Books, Prices, and Addresses*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

CAST-IRON PIPES, IRON WORK FOR OVENS, &c.

RAIN PIPES, &c.—F. A. TIDDEMAN, Purfleet Wharf, Earl-street, City, near Blackfriars-bridge, keeps a large stock of Rain Pipes, Heads, Shoes, Elbows, &c., half round and O. G. Gutters, Socket Pipes for Water or Gas, Flanch Pipes, Sash Weights, and other Castings; Iron Work for Baker's Ovens of every description, fitted complete, to be had in sets or in parts.—Prices equal to all competition. Contracts taken to any extent.

LIGHTERAGE.—To Contractors, Builders, Stone, Timber, and Slate Merchants, or others requiring Lighterage.—CHARLES STRUTTON, Lighterman and Timber Rafter, having a large number of craft of all sizes, is ready to undertake large or small CONTRACTS at prices particularly advantageous to his employers.—34, Commercial-road, Lambeth (near Waterloo bridge), and Trinity-street, Rotherhithe (near the Commercial Docks).—BARGES LET on HIRE.

J. and J. WRIGHT, VARNISH, JAPAN, and FRENCH POLISH MANUFACTURERS, respectfully inform their friends and the public that they have REMOVED their business from Hammersmith to more central and convenient premises, No. 134, HIGH HOLBORN (nine doors east of New Oxford-street), from whence all orders in future will be executed. Varnishes adapted to every description of decorative art of first-rate quality and durability at very reasonable prices. To those who pay cash is given the full advantage of so purchasing.

TO ARCHITECTS, ENGINEERS, BUILDERS, &c.

GEORGE JENNINGS, Patentee of the SHOP SHUTTER SHOE and FASTENER.
INDIA-RUBBER TUBE COCK.
IMPROVED WATER-CLOSET, without PAN or VALVE.
JOINTS for CONNECTING LEAD or other PIPES without SOLDER.
IMPROVED CLOSET VALVES.
29, Great Charlotte-street, Blackfriars-road.
For drawings and testimonials see "The Builder," January 6.

PAINTING WITHOUT SMELL; a fact accomplished by the use of the newly-discovered SWEET OIL of TURPENTINE, instead of the deadly abomination called oil or spirits of turpentine. Paint mixed with it is free from smell, is improved in brilliancy of colour, and the baneful properties of the lead being neutralized, does not emit those noxious exhalations which have hitherto been so universally associated with painting. By this really valuable discovery house painting is now converted into a sanitary operation, that may be effected at any season of the year, being productive of health and comfort, without causing the slightest derangement to the domestic economy. Sold by the gallon, cwt., or ton, by every respectable oilman in the kingdom, and at the depot, 1, Bream's-buildings, Chancery-lane, where may be seen, and copies had of, the original certificate of Dr. Serny, a senior member of the College of Chemistry. Sold also in sample bottles, 2s. each, bottles included.

TERRA-COTTA, or VITRIFIED STONE WORKS, King Edward-street, Westminster-road, London.—M. H. BLANCHARD, from late Coade's Original Works, Belvedere-road, Lambeth, begs to inform the Nobility, Gentry, Architects, and Builders, that he has re-established the manufacture of that invaluable material, which has been successfully adopted by our eminent Architects and others, in the adornment of our noblest buildings, nearly 100 years has proved the imperishable nature of the material, the specimens of those times now exhibiting all their primitive sharpness.

Groups, statues, friezes, capitals, panelling, pinnacles, finials, terminals, Tudor, and other chimney shafts, balustrading, fountains, fonts, taxas, vases, coats of arms, devices, and every description of architectural ornament, at prices in many instances nearly half the cost of stone.

Specimens of the material to be seen at the Office of "The Builder," 2, York-street, Covent Garden, and at the Works.

TO STONE MERCHANTS AND PAVIORS.

A CARGO of CORNISH GRANITE KERB, just arrived in the River, 12 by 8 and 12 by 6, with some Circular ditto; also some Foot Paving.—Apply to R. WARNER, Scovell's Wharf, Tooley-street.

YORK STONE.—Buy your York Paving Slabs and Landings, your Bramley Fall, Portland, Park, Spring, and Harehill Block Stones, at the VICTORIA STONE WHARF, ISLE OF DOGS, opposite the Greenwich Hospital.

THE CHEAPEST WHARF IN LONDON FOR CASH.

Stone delivered to any wharf in the river in large or small quantities.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 13, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

ANSTONE STONE WHARF, STANGATE.—Mr. GRISSELL has the honour to inform Architects and Builders that he has made arrangements for the SUPPLY of the ANSTONE STONE for all building purposes, and which can now be seen at the above wharf by application to Mr. W. G. WARDLE, of whom every necessary information can be obtained.

N.B. The stone used in the erection of the New Houses of Parliament was supplied *exclusively* from these quarries.

August 30, 1848.

ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, the Anston Stone can be supplied in any quantity on the shortest notice. This valuable stone, so celebrated for its durability, colour, and texture, is well known, having been selected in preference to all others, by the Commissioners of Woods and Forests, for building the New Houses of Parliament. It is very superior for Monuments, Tombs, &c. &c.

W. Wright and Co. have made arrangements to have a stock always on hand at Brine's Marble and Stone Wharf, Horsfall-basin, Maiden-lane, King's-cross.—Any further information can be obtained on application to W. WRIGHT and Co., Anston, near Sheffield; or to T. SHARP, their Sole Agent in London, 27 Burton-crescent.

LUARD, BEEDHAM, and CO., extensive Proprietors of CAEN STONE QUARRIES, Allemagne, Calvados Department, beg to solicit inspection of their Caen Stone for external and internal works. They continue their importations of the first quality, carefully selected at the quarries.

L., B., and Co. have on hand a large stock of the best-quarried stone, at their Depôt, Caen Sufferance Wharf, Rotherhithe, where samples and information may be obtained.—Shipments made direct from Caen to any part of the United Kingdom.

AUBIGNY STONE QUARRIES.— LUARD, BEEDHAM, and Co., beg to inform the Architectural and Building Profession generally, they are importing the above stone from Aubigny, near Falaise, Normandy; and from its general adoption (where known), are assured of its great utility.

Aubigny resembles Portland in colour and texture, but free from shell, flint, and other obstructions in working. Its durability may be known from its appropriation to lighthouses, dock and quay walling, and the Royal Chateau, Normandy.

L. B. and Co. have a large and seasoned stock at their Depot, Caen Sufferance Wharf, Rotherhithe, near the Lavender Dock Pier.—Orders executed with dispatch to any part of the United Kingdom.

CAEN STONE.—Original Sufferance Depôt, Norway Wharf, Greenwich.—W. TUCKWELL, Caen Stone Quarry Proprietor and Importer, begs to invite the attention of Architects, Surveyors, Builders, and others to the Stock of DRY SEASONED CAEN STONE on his Wharf, comprising 20,000 feet cube, which has been selected with judicious care, and is fit for immediate use. Shipments made to any port direct from his quarries at Caen.

N.B. Orders received at the wharf as above; also at the offices of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, where further information and samples may be obtained.

STIRLING'S BELVEDERE SLATE WORKS, Belvedere-road, Lambeth.—A reduced list of prices of the best WELCH SLATE SLABS, planed both faces, will be sent on application (post paid) being made, and inclosing a postage stamp. The prices are under those advertised for inferior slates.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform ARCHITECTS and the PUBLIC that he has availed himself of improvements in his MACHINERY, by means of which he is enabled to produce GOTHIC WINDOWS, MOULDINGS, PANNELS, &c. &c., at a very cheap rate, out of a superior stone from the west of England, as durable as any soft stone, and particularly sound.

S. C. has an economical method of dressing the above stone over, which produces, by the action of the atmosphere, a surface of crystalline hardness, and improves the colour.

FONTS from 5l. upwards. Specimens on view of the various styles.

First-rate ARTISTS retained for SCULPTURED and CARVED Works.

Vein Marble Chimney-pieces, of the best quality of material and workmanship, by improved machinery 40s.
Stone ditto, from 8l.

A variety on view in stock.

MEMORIAL CROSSES, MONUMENTS, TOMBS, HEADSTONES, &c., in great variety of design.

RESTORATION of CHURCHES. SAMUEL CUNDY having had much practice in this branch, is desirous of Estimating for Restorations.

CLERKS of WORKS have their particular attention called to the above establishment. Coats of Arms, Decorated Pannels, and other enriched works, promptly executed.

Every description of Stone or Granite work prepared, ready for fixing.—Delivered at the various Railways, and carefully packed in trucks.—Pimlico Marble and Stone Works, Belgrave Wharf, Pimlico

ENAMELLED SLATE.—CAUTION!— Some discarded workmen of Mr. Magnus's, having pirated his invention of marbling slate, and palmed upon the public trashy imitations, which unfortunately are frequently confounded with MAGNUS'S ENAMELLED SLATE, until a few months' wear has shown them in their true light, Mr. MAGNUS, who has expended a fortune in perfecting and introducing his enamelled slate articles (which articles have won for him the patronage of the highest personages in the realm, the approbation and support of the first architects, and the medal of the Royal Society of Arts), deems it incumbent upon him for his own protection, and that of the public, and for the just fame of his invention, to caution the inexperienced against these imitations. The public are, therefore, requested to observe that the address is MAGNUS, PIMLICO SLATE WORKS, and in future all articles of his manufacture will be so marked.

Patronised by her Majesty, Prince Albert, the Duke of Wellington, the Duchess of Sutherland, the Duchess of Grafton, the Marquis of Westminster, the Marquis of Londonderry, the Earl of Denbigh, the Earl of Dartmouth, the Earl of Bandon, the Earl of Waldegrave, the Countess Wilton, Viscount Combermere, Lord Robert Grosvenor, the Bishop of London, the Bishop of Bath and Wells, the Hon. Col. Douglass Pennant, Mr. Assheton Smith, Col. Challoner, Sir J. Easthope, Sir Francis Lawley, Sir Ralph Howard, the Hon. Capt. Duncombe, Sir W. Gordon, the Hon. C. Shaw Lefevre, and numerous others of the nobility and gentry of this and other countries; by the most eminent architects and surveyors, the engineers and directors of the principal lines of railway, the Board of Public Works, and by the public generally.

SLATE SLABS.—Mr. MAGNUS having machinery in Wales capable of sawing and planing some thousands of tons annually, is enabled to supply the public at a much lower rate than any other house not possessing the same facilities. Parties ordering large quantities will be allowed a considerable discount off the recently reduced price list.—Address, MAGNUS, Pimlico Slate Works.

CHAS. WM. WATERLOW,
MANUFACTURER
of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Baker-street, Portman-square.—Cash only.

PATENT PLATE GLASS.—HETLEY and CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of PRICES for the above is now ready, and will be forwarded on application. A REDUCTION of about 40 per cent. has been made on the usual Glazing rates.—Sheet, Crown, and Ornamental Window-Glass Warehouse, 33, Soho-square, London.—ROUGH PLATE GLASS.

E. and W. H. JACKSON beg to call the attention of Builders and the trade to the reduced prices of their PATENT PLATE GLASS, which, from its cheapness, is now superseding crown in all respectable dwelling-houses. BRITISH and ROUGH PLATE, CROWN, SHEET, STAINED, and ORNAMENTAL GLASS, supplied of the best manufacture, and at the lowest terms. List of prices, estimates, and every information can be had on application at their warehouse, 315, Oxford-street.

PATENT PLATE GLASS.—CLAUDET and HOUGHTON beg to remind Architects, Builders, and the Trade of the very low price at which they are now selling PATENT PLATE GLASS, the effect of which is to supersede the use of Crown Glass in the principal windows of all the better class of dwelling-houses.—PLATE, SHEET, CROWN, COLOURED, and ORNAMENTAL WINDOW GLASS Warehouse, 89, High Holborn.

*** Lists of the reduced prices forwarded free on application.

PAINTED and STAINED GLASS and ORNAMENTAL GLASS of every kind, for Windows.—CLAUDET and HOUGHTON, 89, High Holborn, execute every description of Ornamental Glass for Windows, in ancient or modern style, at the lowest prices consistent with superior workmanship, either in plain colour, ornamental in white, embossed, engraved, or richly painted.—Patterns and specimens may be seen at their Warehouse, 89, High Holborn.

THE UNION PLATE GLASS COMPANY beg to call the attention of architects, surveyors, builders, large consumers, and the trade generally, to the quality, colour, and substance of their highly-finished glass, and as the discounts vary according to size, they prefer giving a special estimate for each quantity required. To encourage the use of Plate Glass for glazing purposes, the price is considerably reduced, which will, for its durability and appearance, insure the preference to any other description.

ROUGH PLATE GLASS supplied for skylights, warehouses, workshops, and flooring, 3-8ths, ½, ⅝, and 1 inch thick.

London Warehouse, 26, Hatton-garden, Holborn.

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WINDOW GLASS. — THOMAS MILLINGTON solicits an inspection of the different GLASSES he has now in stock, the qualities of which will be found to be very superior.—87, Bishopsgate-street, Without.

NEW TARIFF.—Sheet in various large dimensions delivered free in London.

Common in	100 feet cases		20s. 0d.
Do.	200	do.	22s. 6d.
Thirds	200	do.	42s. 6d.
Seconds	200	do.	65s. 8d.
Best (very superior)		do.	100s. 0d.

ROUGH PLATE GLASS for WINDOWS, SKYLIGHTS, and FLOORS in sizes not exceeding 5 feet superficial.

¼ thick	1s. 0d.	½ inch	2s. 6d.
3-8th inch	1s. 2d.	1 inch	3s. 0d. per foot.
⅜ inch	1s. 6d.		

PATENT ROUGH PLATE TILES.

¼ thick	0s. 11d.	3-8th inch	1s. 7d.
½ inch	1s. 2d.	⅝ inch	2s. 0d. each.

GLASS DOMES for SKYLIGHTS, from 15 to 80 inches in diameter. These are well worth notice.

C C C Crown per crate 18 tables	£1 16 0
C C do. do.	2 0 0
Fourths do. do.	2 7 0
Thirds do. do.	2 2 6
Large Crown Squares in 100 feet boxes	21d. per foot.
8 by 6 — 10 by 8 do	2d. do.

Very superior Plate for Pictures and Windows, averaging 26oz. from 1s. 6d. per foot upwards.

STAINED GLASS WINDOWS and LEAD LIGHTS, for Cathedrals, Churches, Chapels, &c., in Patent Rolled Glass, white and coloured, 26oz. to the foot, or 1-8th of an inch thick.

Plain glazing, in white quarries		1s. 3d.	per foot super.
"	" and coloured border	1 6	"
"	In tinted quarries (yellow or green)	1 6	"
"	And coloured border	1 9	"
Ornamental quarry lights, in white or tinted glass		3 6	"
"	In white or tinted glass	5 0	"
Ornamental quarry lights, in a superior style, in white or tinted glass		7 6	"
Windows of geometrical design, in plain colours		7 6	"
Mosaic and diaper windows, without figures		10 0	"
"	With one figure	15 0	"
Mosaic and Gothic windows, elaborately designed and of the highest description of art, with letters and figures		20 0	"
Headings for Gothic windows	from	15 0	"
"	to	20 0	"

Ornamental Borders, from 1s. 6d. to 5s. per foot run.

N.B. The foregoing are the prices at which windows will be delivered all complete, in any part of the kingdom.

REMARKS.—Being the only manufacturers of the Patent Rolled Glass, we are enabled to execute Windows at our manufactory much cheaper, and having the command of every variety of tint, in the harmonious blending of which everything depends, we possess greater facilities than any other house.

The introduction of this glass in cathedrals and churches furnishes a new era in the history of stained glass; for, since the time of the ancients, there has not been discovered, till now, any glass that equals theirs in richness or brilliancy.

A great drawback to the more general use of stained glass has hitherto existed in the uncertainty as to its actual cost. In the foregoing tariff this is entirely removed, for by it any architect or clergyman, by getting the measurement of the openings, can arrive at the precise cost of any description of window; and, it will be observed, there are no after incidental charges or expenses further than the mere placing in the building.

Attention is particularly directed to the prices of plain glazing, viz., white glass, 1s. 3d.; tinted glass, 1s. 6d. per foot complete, which are cheaper than has been charged for the common crown or sheet glass.

Patent rolled glass is peculiarly adapted for the glazing of all kinds of ecclesiastical edifices; it is more in character with the building, for being translucent and at the same time not transparent, a subdued but not obscured light is admitted, and, without darkening the interior, the glare of the sun is excluded. Its extreme strength, one-eighth of an inch thick, is also in favour of its general adoption.

*** A book of designs to select from will be forwarded on application, or parties may furnish their own designs, and be charged according to the foregoing tariff.

JAMES HARTLEY and Co., Glass Manufacturers, Sunderland.

PAPIER MACHE AND CARTON PIERRE ENRICHMENTS MANUFACTORY.

49 & 50, RATHBONE-PLACE.

GEORGE JACKSON and SONS beg the attention of Architects, Builders, Decorators, and others, to their large assortment of ENRICHMENTS in every style, executed in the highest class of art.—Enrichments for ceilings of every period, elaborate or simple, Gothic, Elizabethan, pendentive or flat, Louis XIV. in much variety, and to any degree of cost; Italian and Greek, Renaissance, and many modified characters, executed for the first houses, and from designs of architects of the highest eminence; wall dressings, rich panels of every period, rich Elizabethan and Gothic Dados, in many designs. Door-cases, mouldings, and dressings.

A large assortment of Gothic Bosses to many varied intersections of all sizes, tracery and panel headings for church works, organ dressings, of most periods, and faithfully executed to the traits of each.

The general decorations of Drawing and Dining Rooms, Libraries, &c., of very considerable extent, as furniture, glass frames, tables, window cornices, screens, candelabra, and the whole range of accompaniments to Reception Rooms of the first class, as well as more subdued.

The facilities and repeated enlargement of means enable GEORGE JACKSON and SONS to announce the execution of works of the above descriptions in these advantageous materials at a cost considerably below any known method, while for quality, relief, and finish, they flatter themselves they stand unrivalled.

DESIGNS MADE FOR ANY WORKS.

PAPIER MACHE AND CARTON PIERRE WORKS, 49 & 50, RATHBONE-PLACE, LONDON.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 96, REGENT-STREET and 131, CHANCERY-LANE. Patent sealed on the 4th day of February, 1843, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters, without Machinery, and Two for Hinging and Sheathing the Edges of Wood Laths with Iron.—The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel worm and screw gear, or any other complicated machinery employed by other makers.

IRON SHUTTERS.—The PATENT CONVEX REVOLVING IRON SHUTTERS are cheaper, twelve times stronger, work easier, cannot run down, and roll up in one-third less room than any other shutters made. Harcourt Quincey, Patentee.

CLARK and Co., Sole Manufacturers, and of IMPROVED DRAWN ORNAMENTAL METALLIC SASH BARS, ASTRAGALS, MOULDINGS, STALL-BOARD PLATES, &c. &c., in brass, copper, and zinc. WROUGHT-IRON GIRDERS, HOT-WATER APPARATUS, and metal works of every description connected with buildings. Steam engines, millwork, and machinery. CLARK and Co., Engineers, 236, Wapping. Models can be seen and every information obtained at 456, Oxford-street, and 4, Moorgate-street, City. Agent for Scotland, Mr. G. BRIGSTOCK, 17, George-street, Edinburgh.

BUNNETT and CORPE, ENGINEERS, Patentees of

REVOLVING IRON AND WOOD SAFETY SHUTTERS,

and of

ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c.

FOR SHOP-FRONTS, SKYLIGHTS, &c.

Shop-fronts completely fitted and fixed in a superior style, either plain or ornamental, also glazed with best plate glass. Strong moulded stallboards handsomely engraved. Metal works and machinery of all kinds in connection with banking-houses, shops, warehouses, &c. &c.

B. and C. challenge competition as to either quality or price.

Designs furnished and estimates given.

IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR BUILDERS.

SOLE LICENCEES FOR MARVIN and MOORE'S PATENT DIAGONAL GRATINGS.

Office of the Patentees, 28, Lombard-street, London; and at the Works, Deptford, Kent.

CHUBBS' LOCKS, FIRE-PROOF SAFES, AND CASH BOXES.

CHUBBS' PATENT DETECTOR LOCKS give perfect security from false keys and picklocks, and also detect any attempt to open them. They are made of all sizes, and for every purpose to which locks are applied, and are strong, secure, simple, and durable.

CHUBBS' PATENT LATCH, for front doors, counting-house doors, &c., is simple in construction, low in price, and quite secure. The keys are particularly neat and portable.

CHUBBS' PATENT FIRE-PROOF SAFES, BOOKCASES, CHESTS, &c., made entirely of strong wrought-iron, so as effectually to resist the falling of brick-work, timber, &c., in case of fire, and are also perfectly secure from the attacks of the most skilful burglars.

CHUBBS' CASH and DEED BOXES, fitted with the Detector Locks.

CHUBB and SON, 57, St. Paul's Churchyard, London.

LEADBEATER, FIRE-PROOF SAFE AND DETECTOR LOCK MANUFACTURER TO HER MAJESTY'S BOARD OF ORDNANCE

CAUTION to Purchasers of FIRE-PROOF DOORS for Strong Rooms, Safes, Chests, and Detector Locks, &c. &c. LEADBEATER, many years manufacturer for Chubb.

LEADBEATER begs most respectfully to inform Architects, Surveyors, Builders, &c., that he can supply them with IMPROVED DETECTOR LOCKS for universal purposes. STRONG WROUGHT IRON FIRE-PROOF DOORS, SAFES, and CHESTS, &c., on the most improved principles of security against FIRE and THIEVES, without the aid of "expensive machinery," which is employed by some inexperienced makers, but must be paid for; at prices 25 per cent. under any other house in London.

LEADBEATER offers ONE HUNDRED POUNDS reward to any person who can pick his improved detector locks or latches. Some thousands of Leadbeater's strong-room doors and safes have now been put up without a SINGLE COMPLAINT, and fifteen years' practical experience, during which he has adapted every possible improvement to real security, enables him to challenge competition with any house in London. A large assortment of all sizes on sale and made to order. A pair of extra strong wrought-iron fire-proof folding-doors with ventilating gates, made expressly for a banker's strong room, may be viewed at his manufactory. Strong wrought-iron doors for party walls, with wrought-iron rabitted frames, and secured by the BEST DETECTOR LOCKS in ENGLAND, 6 feet high by 2 feet 2 inches wide and upwards, price 16l. each, always on hand at LEADBEATER'S MANUFACTORY 23, ALDERSGATE-STREET, LONDON.

FIRE-PROOF FLOORS.—J. H. PORTER'S PATENT CORRUGATED-IRON FIRE-PROOF FLOORS, although not more costly than those of cast-iron with brickwork and concrete, give greater security from fire, with less than one-tenth of the weight.—Manufactory, Iron Building and Roofing Works, Southwark; office, 2, Adelaide-place, London-bridge, City.

FIRE in LINCOLN'S-INN.—The importance of constructing the FLOORS and CEILINGS of buildings FIRE-PROOF, has been strikingly exhibited at the recent extensive fire in Lincoln's-Inn, where the absence of any precaution of this kind has led to the destruction of deeds of very considerable importance, and property of great value. The proprietors of the Patent Flooring offer the advantage of a fire-proof building at a cost not exceeding that of the ordinary mode of construction; and by the adoption of this improved method of building, greatly increased strength and durability are combined with perfect security to life and property.—Apply to Messrs. FOX and BARRETT, Leicester Chambers, 46, Leicester-square.

CLEANLINESS is necessarily at all times conducive to health, and this, as well as economy, is greatly promoted by substituting for the noxious process of painting with oil and white lead, STEPHENS'S DYES for STAINING WOOD, as a SUBSTITUTE for PAINT, for decorating churches, large public rooms, and theatres, as well as private dwellings. When economy in expenditure of material and time is of importance, these Dyes will be found of the greatest advantage, as they give a rich colour to plain woods, while they reflect all the beauty of the natural graining, which is so superior to imitations by art, and, at the same time, avoid the disagreeable smell and deleterious consequences of paint. The Dyes, or Stains, are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London, in bottles at 6d. and 1s. each, and at 8s. per gallon. The Oak, Mahogany, and Satin Wood Colours may be obtained in powder at 8s. per lb., which dissolves in water to form the liquid, and 1 lb. will make one gallon of stain.—N.B. The trade supplied.—Sold also at the Office of "The Builder," 2, York-street, Covent Garden, London; at both which places may be had the proper Varnish and Size, with directions for their use.

CHEAP FUEL.—COKE admirably adapted for Conservatories and Private Houses, to be had at the Phœnix Gas Works, either at Bankside, Southwark, or at the Bridge, Vauxhall, or at the Creek Bridge, Greenwich. Owing to the stock in hand (unusual for the season) the price has been reduced below the average summer price, until this stock is cleared. A large allowance to dealers taking any quantity by barge.

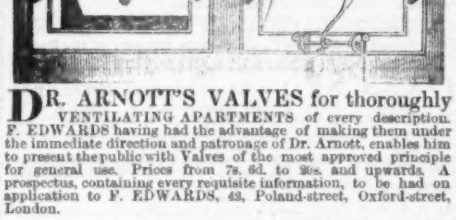
SMOKY CHIMNEYS caused by WIND are guaranteed to be cured by the application of DAY'S newly-invented SIMPLEX WINDGUARDS, which offer the the following advantages over the tried invention, known as DAY'S PATENT WINDGUARD; viz., greater cheapness and durability, impossibility of clogging with soot, and the prevention of the descent of smoke down adjoining chimneys. Price in Galvanized Iron, 25s.; Size for Kitchen Chimneys, 40s.; To be seen and tested at Mr. JEAKES'S, the Sole Proprietor, 51, Great Russell-street, Bloomsbury. Prospectuses forwarded on application. Country licenses for manufacturers granted.

SMOKY CHIMNEYS.—"NO CURE NO PAY."

J. WILSON, Bricklayer and Surveyor of Chimneys, 1, Vale-place, Hammersmith, begs to inform architects, surveyors, builders, and others, that he can guarantee a perfect cure of chimneys from smoking into rooms, and on the equitable terms of "No cure no pay." References and testimonials of the highest respectability can be given.

N.B. WILSON & Co.'s PATENT CHIMNEY POTS for the Cure of Smoky Chimneys, which have been extensively tested for the last four years, can be forwarded to any part of the Kingdom on receipt of a Post-office order. Prices and prospectuses by return of post. Licenses granted to manufacturers.

MANUFACTORY—VALE-PLACE, HAMMERSMITH, MIDDLESEX.



DR. ARNOTT'S VALVES for thoroughly VENTILATING APARTMENTS of every description. F. EDWARDS having had the advantage of making them under the immediate direction and patronage of Dr. Arnott, enables him to present the public with Valves of the most approved principle for general use. Prices from 7s. 6d. to 20s. and upwards. A prospectus, containing every requisite information, to be had on application to F. EDWARDS, 42, Poland-street, Oxford-street, London.

DR. ARNOTT'S VENTILATING CHIMNEY VALVE.

For carrying off Heated and Impure Air from Bed-rooms Sitting-rooms, Counting-houses, and Apartments generally.

LIST OF PRICES.

	First size, 11 by 8.	Second size, 16 by 9.
Plain Iron Valve	7 6	12 0
Bronzed and Leathered	9 0	14 0
Japanned, white with Gold lines	15 0	21 0
Brass Front	17 0	24 0

Packing Cases (if required), 1s. 3d. each.

Manufactured by HART and SONS, 53, 54, 55, Wych-street Strand, London.

IMPROVED SELF-ACTING CHIMNEY VENTILATORS,

FOR CARRYING OFF HEATED AND IMPURE AIR from drawing-rooms, sitting-rooms, bed-rooms, nurseries, offices, &c. &c., from 5s. each.—BURT and POTTS, Manufacturers and Ironmongers, 65, York-street, Westminster, London.

Stoves, ranges, rain-water pipes, gutters, and builders' ironmongery, as low as any house in London. Delivered free within 5 miles.

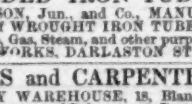
CABLE'S FUMI PORTE; or, improved CHIMNEY-TOP and VENTILATOR.

The best and cheapest invention hitherto discovered for curing smoky chimneys. Sold by the Inventor, at his agents', Lawrence and Co.'s, 55, Parliament-street, London.

N.B. Licenses granted to the trade, by Labels at per dozen, according to circumstances.

PATENT CHIMNEY PUMP, for securing an upward current, and preventing a down draft, invented by SIR HENRY HART, Commissioner of Greenwich Hospital, where the invention has been in successful use for several months. Price 25s., or 20s. on square foot. A liberal discount to ironmongers and builders.

Sole agents—BENHAM and SONS, 19, Wigmore-street, Cavendish-square; and DEANE, DRAY, and Co., King William-street, London-bridge.



LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and other purposes.

PATENT TUBE WORKS, DARLASTON STAFFORDSHIRE

BUILDERS and CARPENTERS' IRONMONGERY WAREHOUSE, 18, Blandford-street, Manchester-square, leading out of Baker-street, Portman-square. Lists of prices may be obtained on pre-paid application.

JOHN and EDWIN YOUNG, Proprietors.

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKER'S OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

BURBIDGE and HEALY, 130, FLEET-STREET, LONDON, beg respectfully to inform the Building Public that they fit up COOKING ARRANGEMENTS for large Mansions, with patent appliances on scientific principles, which ensure greater economy and efficiency than hitherto attained. Also HOT WATER APPARATUS, upon improved and scientific principles, which they recommend for its peculiar safety for the Warming of Mansions, &c.

They fit up Laundries with Hot Water Apparatus, for Drying in a cleanly, expeditious, and safe manner. They also fit up BATHS with elegant arrangements, with every modern scientific improvement. Also Apparatus for the plentiful supply of Hot Water for Baths and general use of Mansions and large establishments.

HOT-WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises.—BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

TO ARCHITECTS, BUILDERS, &c.

HAYWARD, BROTHERS, late R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen Ranges, with Back Boiler and Oven and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3.	£3. 10s.	£3. 15s.	£4.	£4. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5.	£5. 15s.	£6. 5s.	£6. 10s.	£7.

Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 9½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and Stove-grate Manufactory 13, Cross-street, Walworth.

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, Kitchen Ranges, &c., &c.

Black Registers, from 6d. per in. and upwards.

Bright ditto with Black and Bright Bars, 3l. 10s. and upwards.

Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3 ft.	3 ft. 6 in.	4 ft.
2l. 18s.	3l. 7s.	3l. 15s.

Elliptic Stoves, 3d. per in.

All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 8s. per pull.

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d 7d., 8d. per inch.

Cottage Ranges, with Ovens and Boilers, 3 ft. 2 in. 40s.; 3 ft. 4 in., 42s.; 3 ft. 6 in., 44s.

Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings,

3 ft., £2. 18s.	3 ft. 6, £3. 7s.	4 ft., £3. 18s.

Best Patent Cut Clasp.

4½d.	5d.	7d.	10d.	1s. 2d.	1s. 6d. per 1,000
3d.	4d.	6d.	8d.	10d.	20d.

Best Sheet Floor Brads 13s. per cwt.

Best Town Glue 28s. Do. Scotch, 52s. per cwt.

Best Patent Sash Line.

4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.
4	3	3	4	5	6

At F. B. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 25, Chiswell-street, Finsbury-square.

Lists of Prices had on application at the Warehouse, or by letter pre-paid, inclosing postage stamp.—Warehouse closes at 7 o'clock.

TO BUILDERS, CARPENTERS, AND OTHERS.

BENJAMIN WALMSLEY, Wholesale Ironmonger, Brass-founder, Stove-grate, and Kitchen-range Manufacturer, at the Padlock, 127, London-road, Southwark.

Self-acting ranges, with oven and boiler and revolving shelves complete.

3 feet, 2l. 10s.	3 feet 6 inches, 3l.

Register-stoves, from 6d. an inch and upwards.

Elliptic-stoves, with double backs, 3d. an inch.

Washing-coppers, 1s. 2d. per lb.

Sash pullies (iron bd.), 8s. per gross. Sash weights, 6s. per cwt.

Cast butts, per dozen pair.

2 inch, 10d.	2½ inch, 1s. 3d.	3 inch, 1s. 9d.

Best cut clasp, per thousand.

4d., 5½d.; 6d., 7d.; 10d., 1s. 3d.; 20d., 1s. 7d.

Every description of ironmongery, brass-foundry, &c., adapted to the use of builders, upholders, cabinet-makers, bell-hangers, smiths, wheelwrights, and others, of quality and at prices that defy competition. Iron and spring steel.